CHRISTINA WESSELS

Flexible Working Practices

How Employees Can Reap the Benefits for Engagement and Performance

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How Employees Can Reap the Benefits for Engagement and Performance

Flexibel werken:
Hoe medewerkers kunnen profiteren in termen van bevlogenheid en prestaties

Thesis

to obtain the degree of Doctor from the
Erasmus University Rotterdam
by command of the
rector magnificus

Prof.dr. H.A.P. Pols

and in accordance with the decision of the Doctorate Board.

The public defence shall be held on
Friday 12 May 2017 at 13.30 hrs

by

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born in Neuss, Germany

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Erasmus Research Institute of Management – ERIM
The joint research institute of the Rotterdam School of Management (RSM)
and the Erasmus School of Economics (ESE) at the Erasmus University Rotterdam
Internet: http://www.erim.eur.nl

ERIM Electronic Series Portal: http://repub.eur.nl/

ERIM PhD Series in Research in Management. 418
ERIM reference number: EPS-2017-418-LIS
ISBN 978-90-5892-480-3

Design: PanArt, www.panart.nl

This publication (cover and interior) is printed by Tuijtel on recycled paper, BalanceSilk®
The ink used is produced from renewable resources and alcohol free fountain solution.
Certifications for the paper and the printing production process: Recycle, EU Ecolabel, FSC®, ISO14001.
More info: www.tuijtel.com

Acknowledgements

When I finished my Master at RSM in August 2012, I would not have thought that 4.5 years later on, I would be writing on this thank you note of my doctoral dissertation. Only because my current promoters Professor Eric van Heck (and former Master thesis supervisors), Professor Peter van Baalen, and Professor Michaéla Schippers recognized my potential research skills at that time and because dr. Karin Proper and Arnoud de Klijne from RIVM were 'brave' enough to collaborate with a non-Dutch speaker (back then) on an extremely exciting 'het nieuwe werken' project, I decided to move back to Rotterdam in December 2012. Combining three different research disciplines (information systems, organizational psychology/organizational behavior, and occupational health) coupled with the practical orientation of this dissertation was truly a challenge and at times confusing, tiresome, and frustrating, but always fun. It taught me how to juggle with different expectations and gave me great insights into each other's thinking. Undoubtedly, my deepest gratitude goes to those five people.

Eric, through the lens of an IS scholar, you gave my papers a new twist when I thought I could not get more out of them. You were the one who taught me to become an independent scholar by choosing - amongst the controversial feedback - what I think matters most and you provided me with valuable guidance on strategic issues that evolve in doing a PhD. Thank you!

Peter, thank you for your continuous support across the boundaries of RSM. Even though we did not see each other that regularly, when we met, you were most engaged. Our brainstorm sessions were the most creative sessions enabling to see my ideas through new light. You did not only gave me all the freedom to develop my very own research ideas but you also critically evaluated those from the perspective of an IS scholar with an affinity for sociological thinking. Your questions always pinpointed at the flaws of the papers and helped in turning them into strengths. Thank you!

Michaéla, what can I say? If I needed feedback, you were there! No matter the weekday or time. I think you are the most engaged scientist I know and your enthusiasm for research in

general was truly contagious. What I appreciated the most is that you truly let me do my own thing throughout the whole PhD trajectory; you were always open for my very own ideas and you never said no to any of the gazillion literatures, methods, or journals I wanted to explore. Yet, you pin pointed at the sour spots, which I (of course) not always liked, but this helped me in getting the best out of my papers. Thank you!

Karin and Arnoud, thank you both for taking up the challenge and supervising a Non-native Dutch, not at least because of you I became more proficient in Dutch. Karin, thank you for taking up the challenge and combing your research lens with the one of the 'management science', how you like to call it. Our discussions helped me a lot in evaluating the different research disciplines and our meetings were the most fun ones at 'de lange tafel' that often went well beyond research topics. Your critical attitude especially regarding methodological issues and research processes helped me a lot in shaping my thinking. Thank you! Arnoud, thank you for your guidance through the eyes of a practitioner. Taking me to all those management meetings helped me in feeling connected to the business world and aided in putting the results of this dissertation into perspective. Your enthusiasm about the outcomes of the surveys was surely contagious and your consideration of my opinion about @nderswerken was truly a sign of trust. Thank you!

There are many more people to thank from RIVM: Aafke, Andre, Andre, Eefje, Eric, Frank, Jantine, Marcia, Petra, Polly, Sanne, Sylvia, Walter, and not at least all employees from RIVM who participated in every single measurement. This dissertation would not have been possible without you. A big thank you!

Many great scholars have influenced my thinking about the subject of this dissertation and I was fortunate enough to have collaborated with some of them: Thank you Prof.dr. Arnold Bakker and dr. Sebastian Stegmann for your great contributions in Chapter 2 and thank you Prof.dr. Evangelia Demerouti for contributing to Chapter 3. Thank you dr. Daantje Derks, Prof.dr. Jan Dul, Prof.dr. Steffen Giessner, Prof.dr. Clare Kelliher, and Prof.dr. Anne Rutkowski for serving on my doctoral committee.

I am extremely grateful to have worked at RSM for the past 4 years and in particular, the now known department 1, 'Technology & Operations Management' was the best place I could have wished for. I was lucky enough to have Jade and Joydeep as office mates for the past two years; thanks for making T9-36 such a fun office to work in. Derck (thanks for being my 'Dutch companion'), Konstantina (thanks for being my 'female ally') and Micha (thanks for

being my 'German ally' and 'paranimf'): This journey would not have been the same without you. Thanks for all the laughter, distractions, trips, breaks, walks, chai latte's, dinners, and countless fun memories. You truly became great friends. Special thanks go also to Nick for all his help especially in the first year of my PhD and Ksenia. I am also thankful for the BIM/IM/SCM colleagues with whom I had great chats and discussions: Ainara, Alp, Bas, Clint, Davide, Dirk, Eliane, Henk, Ivo, Jun, Marie, Mark, Markus, Marcel, Paul, Rodrigo, Thomas, Timo, Ting, Tobias, Tobias, Vikrant, Wolf, and thank every single TOM colleague that made working at T9 so pleasant. A big thank you goes also to the heart of the department: Carmen, Cheryl (thanks so much for your support), and Ingrid. Thank you for your tireless efforts in managing all of my requests. I also would like to express my thanks to Jason (thanks for all your help regarding my gazillion statistical questions in Chapter 5) and Andrea (thanks for being my 'paranimf') working at the psychology department at EUR. Andrea, it was so refreshing to connect to such a like-minded person like you and I am sure our friendship will continue across the boundaries of EUR and the Netherlands.

I am also truly thankful for the support I received from all the members of the Erasmus Research Institute of Management (ERIM) throughout the PhD process. In particular I would like to thank Kim, Miho, Natalija, and Tineke and for their support.

Last but not least I wish to thank my friends and family (back home) for their support. Mama und Papa, danke für eure jahrelange Unterstützung (in jeglicher Hinsicht), jetzt bin ich endlich fertig mit „lernen." Mama, danke, dass du meine Launen ertragen hast, oft auf mich ‚verzichtet' und mich mehrfach in den letzten 4 Jahren aufgemuntert und dazu ermutigt hast, zur ‚Gestalterin' zu werden. Papa, danke für deinen positiven Zuspruch, dein großes Verständnis und die vielen kleinen Ablenkungen (z.B. Stadtbummel, Essen, Fahrradausflug), die „Gold wert waren". Günter, danke, dass du dich so sehr für alles interessiert hast und für deine große Unterstützung in den letzten 4 Jahren. Danke ebenfalls an: Tim (großer kleiner Bruder), Oma, Beate, Lisa, Susanne, Peter, Mechthild, Julia, Jan, Katina, David, Isabella, Nicholas, and David. A big big thank you goes also to Andrea, Ela, Jasmin, Konstantina, Lisa, and Sonja for always being there, listening to my endless stories about (research) life issues you never got tired of. Thank you!

Christina Wessels

Rotterdam, March 2017

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Chapter 1

General Introduction

Few of the greatest changes in work and how work is carried out in the last centuries have been as far-reaching as the shift from '*farm* to *office'* in the 20th century (cf. Licht, 1988); the most notably shift in the 21th century – the shift from '*office* to the *virtual* and *flexible office'*– is among the few.

Recent technological developments such as the advent of laptops, mobile devices, and related new communication channels (e.g., social (business) networks, instant messaging programs) enabled employees to create their workday in a more flexible way and resulted in greater flexibility in terms of when to work (time flexibility), where to work (spatial flexibility), and how to work (Baarne, Houtkamp, & Knotter, 2010; Hill et al., 2008). Employees with discretion over when they work, and for how long, have the freedom and control to adjust working hours to their personal needs (Baltes, Briggs, Huff, Wright, & Neumann, 1999). Spatial flexibility allows work tasks to be carried out away from the central office (e.g., at home, at a client's premises, in the train, or in a coffee shop), or increasingly also from the different venues inside the central office location (e.g., silent areas, brainstorm places) that can be adapted to suit the nature of work tasks and/or to fit personal preferences. Remote working is often referred to as teleworking where employees work from the 'virtual office' (Nilles, 1998).

The introduction of those flexible working practices is further set forth in the context of the changing nature of work. The shift from Fordism, where work was largely physical and manual, to work being mental and highly knowledge intensive, facilitated the introduction of

flexible working practices. Volatile market conditions, competitive pressures as well as retaining and attracting talent stimulated the uptake of flexible working practices (European Commission, 2010). On top of that, changes in the labor force, such as the ageing workforce or women participating in the labor market, required a greater compatibility between work and family life which flexibility in both location and timing of work is assumed to provide (Allen, Johnson, Kiburz, & Shockley, 2013).

Flexible working practices have become popular HR policies in organizations. Time flexibility represents a relatively widespread policy in the countries comprising the European Union – especially in the northern and western member states (between 50% and 60% of employees work in a time-flexible manner) and represents a central element in the European employment strategy (European Commission, 2010). Equally popular and important in the European employment strategy is teleworking, which has increased significantly over the years both in Europe and the USA (see Eurostat, 2016 or U.S. Department of Labor, 2016). As the first country to do so in Europe, the Netherlands has established a legal basis for employees to request changes regarding the scheduling, length, and location of their work with the introduction of the Flexible Working Act (see 'wet flexibel werken', Article 2).

Claims and concerns for greater performance (Ortega, 2009) and well-being are often made in this regard (see De Menezes & Kelliher, 2011). However, the scientific evidence about the effects of flexible working practices, performance, and well-being is equivocal. Prior empirical work has shown that flexible working practices is related to positive effects (e.g., Bailey & Kurland, 2002; Gajendran & Harrison, 2007; Kelliher & Anderson, 2008), negative effects (e.g., Kelliher & Anderson, 2008; ten Brummelhuis, Bakker, Hetland, & Keulemans, 2012) or even can result in zero effects (e.g., Staples, 2001; Trent, Smith, & Wood, 1994; (for reviews see De Menezes & Kelliher, 2011; Gajendran & Harrison, 2007; Nijp, Beckers, Geurts, Tucker, & Kompier, 2012).

Despite the substantial uptake of flexible working practices in businesses and the plethora of research in this area (e.g., Hill, Erickson, Holmes, & Ferris, 2010; Kattenbach, Demerouti, & Nachreiner, 2010; Peters, den Dulk, & van der Lippe, 2009; Sardeshmukh, Sharma, & Golden, 2012), scholars and organizational leaders are left behind with these mixed findings. This dearth of empirical research leaves a lack of understanding of whether and how employees and their organizations can make the most of flexible working practices. The relationship between flexible working practices and performance and flexible working practices

and well-being remains largely in the dark. In regard to the latter, the relationship between flexible working practices and work engagement as an indicator of work-related well-being (Bakker & Demerouti, 2008) is poorly understood. Work engagement has been recognized as a vital "positive, fulfilling, affective-motivational state of work-related well-being" (Bakker & Leiter, 2010, p. 1) in the workplace because engaged employees are willing and able to invest themselves fully in their roles, truly enjoy what they are doing, are driven to excel, and thereby 'go the extra mile for the organization' (Bakker & Leiter, 2010). Engagement has shown to be high if employees have access to certain job resources such as autonomy or co-worker support and leads to higher performance (Bakker, Demerouti, & Sanz-Vergel, 2014). Previous research suspected that flexible working practices may change the experience of certain job resources (Richman, Civian, Shannon, Hill, & Brennan, 2008; Sardeshmukh et al., 2012; ten Brummelhuis et al., 2012) but the relation between flexible working practices and work engagement is not well understood.

Hence, what is currently still unclear is, ***how flexible working practices influence performance and work engagement.*** In this dissertation, I aim to further the understanding of the relationship between flexible working practices and performance and flexible working practices and work engagement.

1.1 THEORETICAL BACKGROUND

1.1.1 Flexible Working Practices

Offering flexible working practices can be considered a structural change that organizations make to redesign their approach to work and is facilitated through advances in information and communication technology (ICT) (Baarne et al., 2010; Westerman, Bonnet, & McAfee, 2014a). Flexible working practices can be understood as "the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks" (Hill et al., 2008, p. 152). Central to this definition is an individual's ability to *make choices* regarding their work (Hill et al., 2008), which puts emphasis on the employee (flexibility for employees) as opposed to the organization (flexibility of employees) (see Alis, Luchien, & Leopold, 2006). This definition also emphasizes two realms of flexibility (spatial realm and temporal realm) in which flexibility can be realized in different ways. Employees who have the freedom to determine *when* and for *how long* they work have great scheduling flexibility, which is

also referred to as temporal or time flexibility. This not only includes scope to vary the start and end point of a working day but also the amount of time worked – i.e. the length of the working day can be adjusted. A common form of scheduling flexibility is the flexi-time policy in which employees have the freedom and control to adjust working hours to personal needs (Baltes et al., 1999). Working under a part-time contract, which deviates from the 36/40-hour standard work week, is also considered another suitable alternative (Baltes et al., 1999). Employees who have the freedom to determine *where* they work have great spatial flexibility. This essentially means that work tasks can be fulfilled from the various work locations suited to the nature of work (e.g., at home, at a client location, in the train, at a coffee place). This is often referred to as teleworking (Nilles, 1998). In the scientific and popular press the notion of flexible working practices has thus been subsumed under diverse terms and patterns such as telework, remote working, compressed working weeks, and reduced hours, amongst others.

Even when an organization offers such flexible working options, this does not guarantee that employees recognize these as such or actually make use of them (Hill, Hawkins, Ferris, & Weitzman, 2001). It is therefore important to differentiate between the more formal flexibility provided by the employer and the actual flexibility experienced by employees, which will be the main focus of this dissertation.

Previous definitions of spatial flexibility did not include the notion of the increasing flexibility inside the office environment, which often nowadays accompanies flexible working policies. ICT-enabled flexibility not only allows working days to be created in a more efficient manner, but refinements in ICT also manifest themselves in spatial changes to traditional offices and allow office spaces to be used more efficiently and intelligently. Traditional office concepts with assigned workplaces to carry out all work tasks gave way for innovative offices in which employees collaborate through ICT and no longer have a fixed workplace, but choose a workplace that fits the task to be carried out (Becker & Steele, 1995; Vos & van der Voordt, 2001). The motivation to establish a more dynamic approach to office usage is not only related to saving on overhead costs such as office space, heating or lighting on the employer side, but also to the fact that work tasks can be accomplished from different workplaces within the central office that are often designed with a specific kind of task in mind (e.g., silent areas, open office areas, meeting rooms, or brainstorm rooms) (Becker & Steele, 1995). This concept is also often referred to as activity-based areas and has enjoyed intensified growth over the last decade. In the Netherlands for instance it is considered to be among the top 5 components of new ways

of working (HNW Barometer, 2013). Deloitte Netherlands' office building 'The Edge' in Amsterdam, the Accenture campus 'Kronberg' in Germany, or the Unilever-House in Hamburg, Germany, represent recent examples of such innovative offices. In the current dissertation, I therefore extend the definition of spatial flexibility to also refer to the concept of activity-based areas. However, not all chapters in this dissertation are concerned with this extension. Chapter 4 and partly Chapter 2 take this form of spatial flexibility into account.

Increasing interest in flexible working practices has brought forth many empirical studies that focused on the various aspects of flexible working practices and thereby helped in improving our understanding of the effects of these practices. The notion of flexible working has been around since the 1970s, and the inception of the term 'telework' by Jack Nilles in 1973 saw interest in this practice really begin to increase. In the 1980s, Pierce and colleagues (for instance Dunham, Pierce, & Castañeda, 1987; Pierce & Newstrom, 1980) as well as Ronen and colleagues (see for instance Ronen & Primps, 1981) dominated the research around flexible working practices and employee responses, attitude, and performance in this decade. In the mid and late-1990s, Hill and colleagues with their studies at IBM largely opened up and stirred research interest in the notion of flexible working and work-life issues in particular (see, for exmaple, Hill et al., 2001; Hill, Miller, Weiner, & Colihan, 1998). Studies concerned with flexible working practices and well-being have been scattered, and many focused on the notion of stress (e.g., Almer & Kaplan, 2002; Ashforth, Kreiner, & Fugate, 2000; Shamir & Salomon, 1985). However, research has paid less attention to the notion of work engagement, which represents a context-specific type of well-being (work-related well-being) (Bakker & Demerouti, 2008).

1.1.2 The Notion of Work Engagement and Performance

At the same time as flexible working practices have become the dominant way of working in knowledge work organizations across Europe and the USA, in the early 2000s, the concept of engagement as work-related well-being has caught interest in both businesses, consultancies, and academia. Bakker and Leiter (2010) argued that contemporary organizations are in need of employees that are engaged because engaged employees are psychologically connected to their work, truly enjoy what they are doing, and as a result show higher levels of performance (Bakker & Demerouti, 2008; for a review see Bakker, Demerouti, & Sanz-Vergel, 2014). Engagement has been contrasted against job burnout and Schaufeli, Salanova, González-

Romá, and Bakker (2002) contend that engagement and burnout represent two independent constructs since employees who have low burnout scores do not inevitably have high engagement scores and vice versa. Along the lines of their argumentation, Schaufeli et al. (2002, p.74) introduced the idea of *work engagement,* which is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (…)." The vigor dimension of work engagement is captured by employees' high levels of energy who are willing to put effort into their own work; dedication points to employees' feeling of "a sense of significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli, Salanova, et al., 2002, p. 74) and absorption can be best depicted in terms of employees' full concentration and deep engrossment at work. While at work, employees have the feeling of time passing by quickly and are not able to detach themselves from work. Schaufeli et al. (2002) acknowledge that engaged employees do feel tired at the end of the working day; however, according to the authors, their weariness is linked to positive achievements resulting in a positive experience of fatigue.

Ever since the conceptualization of work engagement, scholarly interest in investigating the antecedents and consequences of work engagement rose. Research with the Job Demands-Resources Model (JD-R) (Bakker & Demerouti, 2007; Bakker et al., 2014) has shown that work engagement is particularly high if employees are provided with certain job resources such as supervisor feedback, autonomy or social support, and these can act as buffers against the impact of high job demands, such as workload, time pressure or emotional demands (e.g., Bakker, Demerouti, & Verbeke, 2004; Bakker & Demerouti, 2008; Hakanen, Bakker, & Schaufeli, 2006). Studies revealed that work engagement is also beneficial for performance. Positive effects have been observed for absenteeism (Schaufeli, Bakker, & van Rhenen, 2009), turnover intentions (Schaufeli & Bakker, 2004), in-role performance (Gierveld & Bakker, 2005; Halbesleben & Wheeler, 2008), extra-role performance (Gierveld & Bakker, 2005), financial returns (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009) or customer satisfaction (Salanova, Agut, & Peiró, 2005).

An evident problem that arises from these studies (and more generally from studies in the field of Organizational Behavior) is that studies concerned with performance have measured it in numerous ways like as in-role performance, absenteeism, or extra-role performance. This heterogeneity is rooted in the shift from Fordism, where work was largely physical and manual, to work being mental and highly knowledge intensive. In its traditional definition from the fordistic mass-production era, measuring employee productivity was rather straightforward as

work was highly standardized and routinized and was largely measured by how many units an employee was able to produce within a certain time period. However, in an era in which primarily knowledge work is shifting towards the dominant form of work, this definition is no longer tenable (Drucker, 1999). Hence, organizations nowadays are faced with challenges regarding how to measure knowledge worker performance. Knowledge workers have no longer a fixed job or task description, do not have standard production times, and the highly ambiguous non-observable nature of the execution of the task makes it increasingly difficult to measure performance (Davenport & Prusak, 1998; Ramírez & Nembhard, 2004). In order to minimize these intricacies, Ramírez and Nembhard (2004) created a performance measure that consists of thirteen dimensions. It includes for instance measures related to quantity, efficiency, costs and/or profitability, customer satisfaction as well as self-rated productivity. Reijseger, Schaufeli, Peeters, and Taris (2010) developed a taxonomy of job performance categorizing job performance into process performance (extra-role behavior, in-role behavior, and counter-productive behavior) and outcome performance (productivity, customer satisfaction, creativity etc.) which can be measured at the individual, team or organizational level objectively (e.g., sick leave), subjectively (self-assessment) or inter-subjectively (supervisor ratings). A significant number of studies in the area of flexible working practices rely on perceived (subjective) performance measures and this measure has been shown to be the most researched but least unequivocal performance indicator (see De Menezes & Kelliher, 2011). Hence, in order to obtain a better understanding of the effects of flexible working practices and perceived (subjective) outcome performance, I follow the definition of Neufeld and Fang (2005, p.1038) who define knowledge worker productivity as "an individual's effectiveness with which he or she applies talents and skills and uses resources to perform work within a specific timeframe."

1.2 RESEARCH MOTIVATION

This dissertation contributes to a better understanding of the effects of flexible working practices and perceived performance. Doing so seems to be a critical and necessary undertaking since the effects of flexible working practices and (perceived) performance remain inconclusive. Baltes et al. (1999) using meta-analytical techniques were among the first to disclose inconsistencies between temporal flexibility (flexi-time and compressed work week) and the effects on organizational-level outcomes such as performance, absenteeism, or job

satisfaction. For instance, the authors have shown that while flexi-time positively influences productivity, it did not influence self-rated performance. A compressed work week in contrast did not positively influence productivity but showed positive influences on supervisor-rated performance. These ambiguous findings were further uphold by Gajendran and Harrison (2007) in their meta-analysis on the effects of spatial flexibility (telework) and individual and organizational outcomes. Telework did not result in gains for self-rated performance but led to increases in supervisor-rated performance. In contrast, work-life conflict appeared to decrease through telecommuting practices, in part because of being able to better combine work and home responsibilities. Similar conclusions were drawn in a recent review about the effectiveness of telework (see Allen, Golden, & Shockley, 2015).

Looking at both practices combined — temporal and spatial flexibility — in a systematic review, De Menezes and Kelliher (2011) concluded that a clear business case for flexible working practices is yet to be made since flexible working practices have shown to lead to positive, negative, and zero effects for performance and also health outcomes. On the one hand studies in their systematic review identified that flexible working practices positively influence employee performance and well-being (e.g., Bailey & Kurland, 2002; Halpern, 2005; Hill, Ferris, & Märtinson, 2003; Hill et al., 1998; Orpen, 1981). These positive linkages were often explained through feelings of increased control and autonomy over work processes (Gajendran & Harrison, 2007; Glass & Finley, 2002). Once employees have the choice of when, where, and how to work, they are able to use their own circadian (physiological 24 hours cycle) rhythm more efficiently (Pierce & Newstrom, 1980). Thereby they are able to seek out time spans in which they are most productive, which should reduce for instance work arrival and commuting stress. Greater control over aligning personal and work-related demands should also lead to reduced stress and higher well-being levels resulting in higher performance for employees (Baltes et al., 1999). Claims about more efficient communication due to ICT usage leading to greater well-being and performance have also been made in this regard (ten Brummelhuis et al., 2012; ter Hoeven, van Zoonen, & Fonner, 2016).

On the other hand flexible working practices have also proven to contribute negatively to employee performance and employee well-being by blurring boundaries between home and work spheres, by intensifying work, and by increasing interruptions (e.g., Ashforth, Kreiner, & Fugate, 2000; Kelliher & Anderson, 2008) partly due to the usage of ICT (e.g., Barber & Santuzzi, 2015; Chesley, 2014; Mazmanian, Orlikowski, & Yates, 2013; Ter Hoeven et al., 2016).

A recent cross-sectional study on flexible working practices and well-being not included in the systematic review also supports those opposing findings (see ter Hoeven & van Zoonen, 2015). On top of that, other cross-sectional studies in De Menezes and Kelliher's (2011) review have shown that flexible working practices do not lead to de-or increases in performance and well-being outcomes (e.g., Kopelman, 1986; Staples, 2001; Trent et al., 1994).

Hence, despite the almost 40 years of research on flexible working practices, it seems that it is still not possible to make a clear case for those practices (cf. De Menezes & Kelliher, 2011) and scholars as well as organizations are left behind with these ambiguous findings. While many organizations continue to offer and invest resources in those practices, at the same time, Yahoo, Best Buy or HP caught attention because of their decision to abandon flexible working practices (Schrage, 2013; Valcour, 2013). This perpetuates uncertainties regarding the potential benefits of these practices, especially also for organizations that have not yet implemented flexible working practices.

Consequently, these ambiguities in findings ask for more clarification and research about the potential gains of flexible working practices. In addition, it is highly remarkable that – despite the importance and interest of both flexible working practices and work engagement – studies of work engagement have been limited to the more 'traditional way of working' not accounting for potential differences in the 'new way of working'. Placing work engagement in the context of flexible working practices reveals that only a very few studies (Richman et al., 2008; Sardeshmukh et al., 2012; ten Brummelhuis et al., 2012) investigated the relationship between flexible working practices and work engagement. Those studies looked at different aspects of flexible working practices thereby contributing to ambiguities.

De Menezes and Kelliher (2011) proposed that the disconnect in findings may be the result of the negligence of paying attention to important individual and organizational mediators (e.g., autonomy) and moderators (e.g., prior experience with flexible working), the way flexible working practices have been operationalized, and due to several methodological flaws. The latter authors as well as Allen et al. (2015) recently hinted at the role of time and posited that an over-reliance on cross-sectional research may make it difficult to explain those opposing effects, and does not allow for a potential time lag between the initial uptake of those practices and effects to be seen. In conclusion, more nuanced studies are needed to disentangle some of those obscurities and therefore, in this dissertation, I will follow up on those calls by examining more nuanced models of flexible working practices.

1.2.1 Research Objective and Research Question

The overall research objective of this dissertation is to unravel some of the mixed findings between flexible working practices and performance and flexible working practices and well-being by furthering our understanding about ***how flexible working practices influence performance and work engagement?*** The chapters in this dissertation are designed to address this question using three specific research objectives. I aim to provide an answer (a) using a combination of empirical and conceptual research, (b) applying and integrating multi-theoretical perspectives, and (c) using a multi- methods approach. With regard to (b), literature on work design (job crafting) is integrated with literature on occupational stress (work engagement), information systems (media theories), and office design (physical work environment). Thereby, a quasi-experiment and interviews, a diary study, and a longitudinal study are used to shed light on my research question. Doing so provides a more holistic view on the effects of flexible working practices and performance and work engagement and advances scholarly and organizational thinking about contingency factors of flexible working practices. This should enable employees to reap the benefits of flexible working practices.

1.3 DISSERTATION OVERVIEW

The core of this dissertation is represented by one conceptual piece of work (Chapter 2) and three empirical studies (Chapters 3-5) that are self-contained, stand-alone papers that each individually provide an answer to the research question. These four chapters are embedded in the present introductory chapter (Chapter 1) and in the general discussion chapter (Chapter 6). Throughout this dissertation, the terms flexible working practices, time-spatial flexibility, and (perceived workplace) flexibility will be used interchangeably. To emphasize the collaborative nature of this dissertation, I will use 'we' instead of 'I'. Figure 1.1 demonstrates a graphical representation of the dissertation outline.

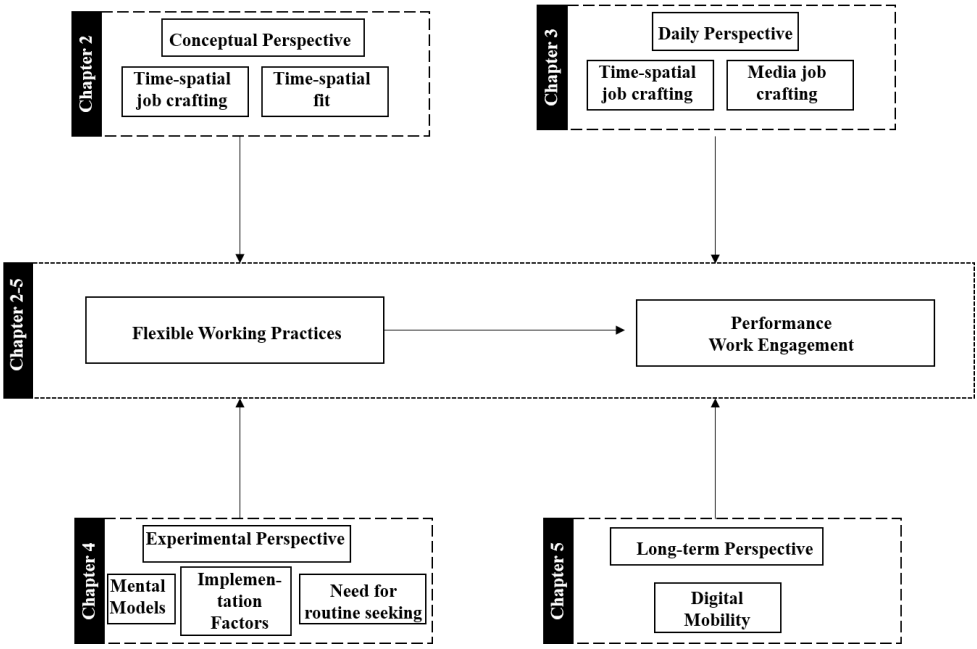


Figure 1.1. Graphical Overview of Dissertation Outline

1.3.1 Dissertation Outline

In chapter 2, we theoretically examine how employees are able to make better use of the given time and spatial flexibility (both in terms of work locations and workplaces) and propose a conceptual model that should help employees to do so. In so doing, our focus is not only on performance and work engagement as outcome variables, but also on work-life balance and exhaustion. In particular, we argue that successful utilization of time-spatial flexibility entails proactivity in the form of *time-spatial job crafting*. Drawing on research from work design, we posit that in order for employees to stay well, productive, and to keep their work-life balance, they ideally engage in time-spatial job crafting. We introduce the term time-spatial job crafting as a form of self-regulatory behavior to refer to the extent to which employees reflect on specific work tasks and private demands, actively select workplaces, work locations, and working hours, and then potentially adapt the place/location of work and working hours or tasks and private demands to ensure that these still fit to each other (i.e. optimizing time-spatial fit). We introduce a theoretical model of time-spatial job crafting in which we present *time-spatial fit* as a mediating

mechanism between time-spatial flexibility and work outcomes, and elaborate on the moderating role of time-spatial job crafting in the mediational process. With regard to the latter, we propose that the relation between time-spatial flexibility, work engagement, performance, and work-life balance will be more positive for employees who are high in time-spatial job crafting and more negative for individuals who are low in time-spatial job crafting (due to an increased time-spatial fit). Further, we shed light on the antecedents of time-spatial job crafting, which we identify as boundary management, organizational culture, and attitude towards time-spatial flexibility. Hence, this chapter can be seen an overarching framework that should help to reap the benefits of flexible working practices.

In Chapter 3 we explore the daily effects of flexible working practices and regard flexible working practices as a contextual variable. We followed 56 employees over the course of 5 working days using a diary study resulting in 265 observations. To some degree, this chapter tests parts of the conceptual model introduced in chapter 2. We examine the effects of daily media job crafting and time-spatial job crafting as two context-dependent types of job crafting that entail reflection on working hours, working locations, and on communication media that can help employees on a day-to-day basis to remain engaged, productive and to retain their work-life balance. We draw from and integrate job crafting literature with media theories to demonstrate that daily media job crafting indeed positively influences employees' performance and work-life balance in the context of daily flexible working practices. We further demonstrate that the combination of both types of job crafting together has stronger effects on performance, work engagement, and work-life balance when daily media job crafting is low and time-spatial job crafting related to private demands is high. Overall, this study shows that employees can use time-spatial job crafting and media job crafting as means to stay engaged, productive, and to retain their work-life balance on a day-to-day basis.

Chapter 4 zooms in to one specific form of spatial flexibility, namely activity-based areas and examines the potential reasons why the move to activity-based areas did not change performance and health outcomes. Next to looking at performance and work engagement, we also include mental health as an outcome variable. Although activity-based areas offer employees greater flexibility over where to carry out work tasks inside the office, this chapter finds that – using both a quasi-experimental design ($n_{intervention}$ = 112 employees; $n_{control}$ = 112 employees) and a qualitative and quantitative process evaluation – that knowledge workers did not make use of the increased flexibility provided by the activity-based area. Our interviews

revealed that employees chose to keep on performing their work tasks at the same workplace leaving performance and health outcomes unaffected. We found that this was partly due to prevailing mental models (e.g., personal preferences regarding workplaces, perceived benefits of different workplaces) and factors pertaining to the implementation strategy itself (e.g., employee involvement, role of manager). We further identified that knowledge workers rationalized this as a means to adhere to their need for routine-seeking. Overall, the findings of this chapter partly explain under which conditions new office concepts may lead to zero effects.

Chapter 5 focuses on perceptions of flexible working practices and takes on a long-term view of the effects of flexible working practices and performance and flexible working practices and work engagement. Over the course of 37 months with three measurement points (n=273 for T1-T3), we show that perceived workplace flexibility is dynamic and increases over time. These changes in perceived workplace flexibility occur concomitantly with changes in digital mobility. We thereby reveal that it may take some time until employees experience flexibility to the fullest and this correlates with changes in digital mobility. Furthermore, our results indicate that changes in perceived workplace flexibility are positively related to changes in work engagement and predict changes in performance over time. Overall, the results of this study emphasize that performance and well-being benefits through perceived workplace flexibility can be realized, but they take time and cannot be seen immediately. Figure 1.2. provides an overview of the relations that we expect in the empirical studies.

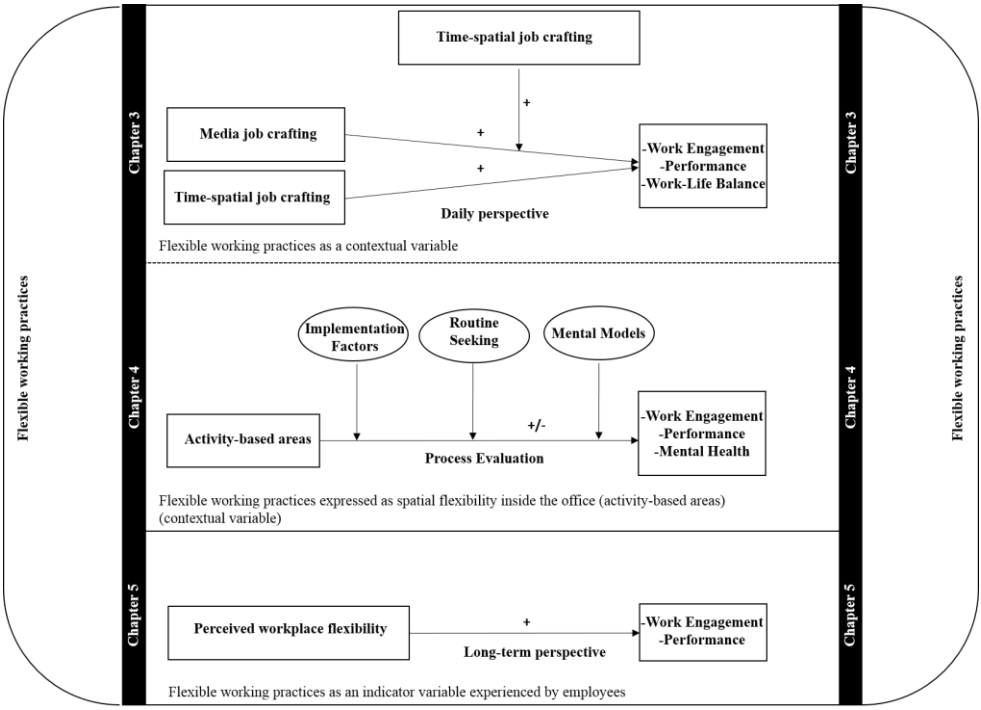


Figure 1.2. Overview of Expected Relations

1.3.2 Declaration of Contributions

I hereby declare my contribution to the different chapters of this dissertation and also acknowledge the contribution of other parties where relevant.

This research has been financed and supported by the Dutch National Institute for Public Health and the Environment (RIVM). Karin Proper was my scientific advisor and is part of the overall supervisory team for this doctoral dissertation. Arnoud de Klijne was my practical advisor and supported me in gathering data and presenting the outcomes of the data gathering efforts to the organization under study. Marcia van Dooren and Jantine van Schuit provided additional support in receiving access to data sources. Eric van Heck, Peter van Baalen, and Marcel van Oosterhout were responsible for setting up this research collaboration with RIVM.

The survey instrument used in this dissertation ("New World of Work framework") was developed by the Erasmus@work research team who consisted at that time of: Peter van

Baalen, Janieke Bouwman, Frank Go, Eric van Heck, Nick van der Meulen, Marcel van Oosterhout, and Michaéla Schippers.

Support in collecting data was also obtained from Christian van Esch (survey 1, Chapter 4 and 5) and Tessa Marijnissen (survey 2, Chapter 4 and 5).

Chapter 1: The work in this chapter was done independently by the author of this dissertation. The supervisory team (Peter van Baalen, Eric van Heck, Karin Proper, Michaéla Schippers) gave feedback and this feedback was implemented accordingly.

Chapter 2: Chapter 2 is by far the most collaborative chapter. The idea of time-spatial job crafting was developed jointly with Michaéla Schippers. The majority of the writing was done independently by the author with helpful and supportive feedback from Peter van Baalen, Karin Proper, Michaéla Schippers, and from the two co-authors Sebastian Stegmann and Arnold Bakker. The author of this dissertation is the first author.

Chapter 3: The work (research question, literature review, data analysis, interpretation and discussion of results) was done independently by the author of this dissertation. Evangelia Demerouti was involved in the data collection phase and helped in setting up the daily questionnaire. Jade van Zeeland helped in translating text from English into Dutch within the data gathering efforts. Peter van Baalen, Karin Proper, and Michaéla Schippers gave valuable feedback on different stages of the paper. The author of this thesis is the first author.

Chapter 4: The majority of the work in chapter 4 was conducted independently by the author of this dissertation. The research question, the literature review, data analysis, interpretation and discussion of results, and writing of this paper is the work of the author. The supervisory team gave feedback throughout the development of this chapter and Karin Proper, Peter van Baalen, Eric van Heck, and Michaéla Schippers helped in framing the paper. Karin Proper also assisted and helped in carrying out the propensity score matching procedure. Etienne Dentro collected the data for the quantitative process evaluation. The author of this thesis is the first author.

Chapter 5: All work in chapter 5 was carried out by the author of this dissertation herself. Peter van Baalen, Eric van Heck, Karin Proper, and Michaéla Schippers provided valuable review comments and edits on this chapter.

Chapter 6: The work in this chapter was done independently by the author of this dissertation. The supervisory team (Peter van Baalen, Eric van Heck, Karin Proper, Michaéla Schippers) gave feedback, which was implemented accordingly.

Chapter 2

How to Cope with Flexibility in the New World of Work? A Model of Time-Spatial Job Crafting[1]

Abstract

In today's "new world of work", employees are often given considerable flexibility regarding where and when to work (i.e. time-spatial flexibility) and this has become a popular approach to redesigning work. Whilst the adoption of such practices is mainly considered a top-down approach to work design, we argue that successful utilization of time-spatial flexibility requires proactivity on the part of the employee in the form of *time-spatial job crafting*. Previous research has demonstrated that time-spatial flexibility can have both positive and negative effects on well-being, performance, and work-life balance; yet remains mute about the underlying reasons for this and how employees can handle the given flexibility. Drawing on research from work design, we posit that in order for employees to stay well and productive in this context, they need to engage in time-spatial job crafting (i.e. a context-specific form of job crafting that entails reflection on time and location/place). We propose a theoretical model of time-spatial job crafting in which we discuss its components, shed light on its antecedents, introduce time-spatial fit as a mediating mechanism, and elaborate on the moderation role of time-spatial job crafting in the mediational process.

[1] This chapter is based on a working paper by Wessels. C., Schippers, M. C., Stegmann, S., Bakker, A. B., van Baalen, P. J., & Proper, K. I. (2016). How to cope with Flexibility in the New World of Work? A Model of Time-Spatial Job Crafting.
Parts of this chapter have appeared in the following peer reviewed conference proceedings as:
Wessels. C., Schippers, M. C. (2015). How to stay engaged and productive in the new world of work? The role of job crafting. In Proceedings of the 17th European Congress of Work and Organizational Psychology, (EAWOP 2015), May 20-23 2015, Oslo, Norway.
Wessels. C., van Baalen, P. J., & Proper, K. I. (2014). Staying engaged in the new world of work. In Proceedings of the Annual Meeting of the Academy of Management, (AOM 2014), August 1-5 2014, Philadelphia, USA.

2.1 INTRODUCTION

Where shall I work today? At home? In the office? Where in the office? In the silence area? In the open office area? When shall I start working? Before I bring the kids to school or afterwards? These are only some of the various questions employees are confronted with in the contemporary world of work. Commencing with advances in Information and Communication Technologies (ICT), a new way of working emerged where organizations have gradually moved from using traditional offices with permanent workplaces to adopting a more hybrid approach (e.g., Microsoft Netherlands). This enables employees to work from different work venues both outside the central office (e.g., a home office, a client's premises, or on the go) and inside it (e.g., open office space, silent areas) (cf. Halford, 2005; Vos & van der Voordt, 2001) that are designed for the execution of particular tasks (e.g., collaborative work, focused work) (Becker & Steele, 1995). Along with the increased flexibility regarding where to work, employees also have greater flexibility regarding when to work. This implies that employees are better able to control and adjust their working hours to suit their private demands (Baltes et al., 1999). Flexible working times have become a relatively widespread policy within the European Union - especially in the Northern and Western member states (European Commission, 2010). Flexibility in terms of when and where to work is also known as time-spatial flexibility (Peters et al., 2009). Time flexibility is considered to be a supportive HR policy helping employees to manage all the different work and private demands (European Commission, 2010).

However, prior research has shown equivocal and contradicting findings regarding the effects of time-spatial flexibility; it has been related to both negative (e.g., Brennan, Chugh, & Kline, 2002; Kelliher & Anderson, 2008) and positive (e.g., Gajendran & Harrison, 2007; Kelliher & Anderson, 2008; McElroy & Morrow, 2010) outcomes in terms of employee well-being, performance, and work-life balance (for reviews see De Croon, Sluiter, Kuijer, & Frings-Dresen, 2005; De Menezes & Kelliher, 2011) and resulted even in 'null effects'. For instance, working from an open office space can be beneficial for well-being (i.e. increasing work engagement) as it enables employees to work physically close to colleagues, and this setting has shown to be conducive to collaboration and social support (Chigot, 2003), thereby increasing work engagement and performance. At the same time, in this type of setting people are also more likely to become distracted from their work due to interruptions from colleagues (McElroy & Morrow, 2010) and increased noise such as talking and typing, which may lead to exhaustion and a loss of performance.

Given these equivocal findings from past research, the question arises how employees can make high-quality choices regarding workplaces, work locations, and working hours to ensure well-being, high performance, and a good work-life balance. Previous literature is relatively mute on why and when flexible work designs lead to positive, negative or 'null' effects neglecting the role of possible mediators and moderators in this relation (De Menezes & Kelliher, 2011). In the current chapter, we respond to calls to come up with more sophisticated research models in this area (De Menezes & Kelliher, 2011). Since a flexible work design is one central element in the European employment strategy (European Commission, 2010) and a growing number of organizations implements (aspects of) time-spatial flexibility (European Commission, 2010; Vos & van der Voordt, 2001), it is imperative to know which strategies are most effective in dealing with increased flexibility. To address these challenges, we develop a model of time-spatial job crafting, in which we propose that employees are able to actively manage and capitalize on the flexibility they have through time-spatial job crafting to optimize the time-spatial fit.

To date, flexible working practices have been understood mainly as a top-down approach to work design (c.f. Humphrey, Nahrgang, & Morgeson, 2007). As time-spatial flexibility has the potential to either increase or decrease employee well-being, performance, and work-life balance depending on whether employees make optimal or suboptimal choices regarding their workplace, work location, and working hours, we argue that for employees and their organizations to gain the most from time-spatial flexibility, a bottom-up approach is needed. Job crafting – proactive behavior by employees aimed at making changes to job characteristics such as tasks and relationships (Wrzesniewski & Dutton, 2001) or job demands and job resources (Demerouti & Bakker, 2014) – has been acknowledged as a fruitful bottom-up approach to work design. Yet those previous job crafting conceptualizations are relatively mute about how job crafting is related to contextual aspects of work such as the time and spatial dimensions of work. In the context of time-spatial flexibility, we argue it is imperative that employees make thought-out decisions regarding the time and spatial dimensions of their work. We introduce the term time-spatial job crafting as a form of self-regulatory behavior (Higgins, 1987), to refer to the extent to which employees reflect on specific work tasks and private demands, actively select workplaces, work locations, and working hours, and then potentially adapt the place/location of work and working hours or tasks and private demands to ensure that these still fit to each other (i.e. optimizing time-spatial fit). The core premise of this article

is that time-spatial job crafting enables employees to benefit from time-spatial flexibility and to avoid its pitfalls by optimizing time-spatial fit. To this avail, we propose a theoretical model of time-spatial job crafting in which we review literature on time-spatial flexibility and outcomes; introduce time-spatial fit as a mediating mechanism, explain the different components of time-spatial job crafting, and elaborate on the moderating role of time-spatial job crafting in the mediational process.

Our model (see Figure 2.1) is important from both theoretical and practical standpoints. Theoretically, the model extends the scope of the job demands-resources (JD-R) literature (for a review, see Bakker, Demerouti, & Sanz-Vergel, 2014), as well as the literature on flexible work arrangements (Hill et al., 2008). Our model also contributes to the work design literature by emphasizing the importance of bottom-up approaches of work design in the new world of work. Our work has also important practical implications, as time-spatial job crafting may be of particular interest for employees working under a flexibility policy and their organizations and HR managers providing such a policy. Our model offers important handles for employers and employees on how to deal with the given flexibility and raises HR managers' awareness for the optimal usage of flexibility.

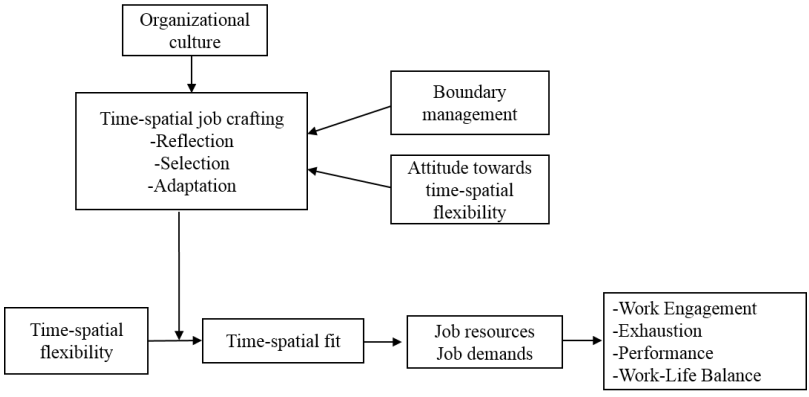


Figure 2.1. A Model of Time-Spatial Job Crafting

2.2 CONCEPTUAL BACKGROUND

2.2.1 Conceptualization of Time-Spatial Flexibility

Time-spatial flexibility within the new world of work describes the context in which employees have the ability to decide when, where, and for how long to work on a daily basis (Hill et al., 2008). We limit our discussion to organizations that offer employees to work in such a flexible manner and where employees need to choose suitable times, locations, and places to work in order to achieve optimal utilization of time-spatial flexibility. Within these organizations, employees with the freedom to determine when they work, and for how long, possess scheduling or time flexibility. A known type of time flexibility represents flexi-time, which gives employees the freedom and control to adapt working hours to personal needs (Baltes et al., 1999). Spatial flexibility allows work tasks to be carried out away from the office (e.g., at home, at a client's premises, in the train, or in a coffee shop), and working away from the central office location is often referred to as teleworking (Nilles, 1998). Previous definitions of spatial flexibility have failed to include the notion of increasing flexibility inside the office environment. With greater flexibility inside the office environment, work tasks can be accomplished from different task-specific workplaces within the central office (e.g., silent areas, open office areas, meeting rooms, or brainstorm rooms) (Becker & Steele, 1995). In the current chapter, we therefore include this notion of flexibility in the definition of spatial flexibility.

Formal flexi-time and flexplace policies are a requirement for employees to make use of such options; however the mere availability does not result in actual usage (Hill, Hawkins, Ferris, & Weitzman, 2001). It is therefore essential to distinguish between the more formal time-spatial flexibility provided by the employer (e.g., as part of an HR policy) and the actual time-spatial flexibility experienced by employees. This is a special case of the general rule that objective work characteristics are redefined by the individual employee and thus, there might be a difference between objective and subjective work characteristics in general (Hackman, 1969). In the present model, we will focus on the subjectively perceived time-spatial flexibility.

This conceptualization also highlights the degree of free choice between the different flexi-time and flexplace options. The underlying idea here is to allow for the optimal choice of working hours, work locations/places given the nature of work and the private demands of the employee on a particular day. We distinguish time-spatial flexibility from work where there is high variability in both spatial and temporal dimensions but no tasks that require employees to

work at irregular and odd times (e.g., at night when trying to meet a project deadline) and various types of places (e.g., in a train, a hotel lobby, or a taxi). Despite high variability in both the spatial and temporal dimensions, with no option to choose between alternatives, work of this type will offer no potential for adaptation to work-related and private demands and needs.

The 'when' and 'where' dimensions in time-spatial flexibility are not seen as distinct from each other but rather represent an integrated whole that "(…) intertwine to produce the how of working (…)" (Halford, 2005, p. 27). This is important as an employee makes both timing and place/location choices simultaneously on any given workday: An employee can decide when to start and stop working (time flexibility) and which workplace or work location to work from (spatial flexibility). Also, flexibility in terms of time and place will have to be translated into day-to-day workplace choices by an employee. As each workday is likely to vary in terms of tasks and personal requirements, an employee will face time, location, and place choices on each day. Some workdays may be more alike, with little variability, yet choices over time and place have to be made anew. This combination of time and spatial flexibility influences how employees carry out their work and thus brings both opportunities and risks for individuals (Karlsson, 2007) in terms of work engagement, performance, and work-life balance.

2.2.2 Consequences of Time-Spatial Flexibility

Offering time-spatial flexibility is often said to help employees in being able to handle work and non-work obligations in a more balanced manner (Allen & Shockley, 2009) and is regarded as one of the main policies to cope with demands from both work and life (Poelmans & Chenoy, 2008). As time-spatial flexibility gives employees greater control over scheduling their workdays, employees are able to allocate work and non-work time more efficiently in a way that fits their needs, thereby creating balance between work and home life. For instance, not having to commute to the office, saves commuting time, which can be spent otherwise (Hill, Ferris, & Märtinson, 2003). Research investigating the influence of time-spatial flexibility on work-life balance is quite diverse as the concept of work-life balance is ill-defined, measured, and researched (Jones, Burke, & Westman, 2006). A lot of research on work-life balance resolves around the notion of role conflict (Rantanen, Kinnunen, Mauno, & Tillermann, 2011) and Clark (2000) defined work-life balance with a special emphasis on role conflict namely as: "satisfaction and good functioning at work and at home, with a minimum of role conflict" (p. 751). Despite

its main goal regarding handling responsibilities from both work and home in a better way, there exists great inconsistency regarding the actual effectiveness of time-spatial flexibility practices for work-life balance (Allen & Shockley, 2009). While some studies reported increases in work-life balance due to decreases in work-family conflict (Gajendran & Harrison, 2007; Hammer, Allen, & Grigsby, 1997; Hill et al., 2003; Madsen, 2003); other studies found decreases in work-life balance due to greater blurring of boundaries (Kurland & Bailey, 1999) or no significant relation (Aryee, 1992; Hill, Miller, Weiner, & Colihan, 1998).

Time-spatial flexibility and the choices that individuals make may also affect employee's work engagement and performance. Work engagement has been defined as "(…) a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (…)" (Schaufeli, Salanova, et al., 2002, p. 74). Engaged workers show high levels of energy, are enthusiastic about their work, and are deeply engrossed in it. The concept of work engagement has received ample attention, because highly engaged employees are psychologically connected to their work, truly enjoy what they are doing, and show high levels of performance (Bakker & Demerouti, 2008; for a review, see Bakker et al., 2014). A meta-analysis by Christian, Garza, and Slaughter (2011) showed that work engagement was positively related to contextual performance and task performance. Research based on the job demands-resources (JD-R) model (Bakker et al., 2014) has shown that work engagement is particularly high if employees are provided with certain job resources and that exhaustion is likely to occur in the presence of high job demands (Alarcon, 2011). According to JD-R theory, job demands can be energy-depleting, which may lead to exhaustion, while job resources are motivational, enhancing work engagement. Importantly, job resources can act as buffers against the impact of high job demands, such as workload, time pressure, or emotional demands (Bakker, Demerouti, & Verbeke, 2004; Bakker & Demerouti, 2008; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). As such, job resources can play a dual role because they help employees to cope with (high) job demands and are important in their own right, due to their intrinsic and extrinsic motivational role (Bakker & Demerouti, 2008).

When individuals are granted time-spatial flexibility, access to these job resources and job demands is likely to be altered. Hence, time-spatial flexibility in itself is neither a resource nor a demand, but influences certain context characteristics of the job. Evidence so far indeed suggests this dual role of time-spatial flexibility: Time-spatial flexibility can either turn out favorably for job resources increasing work engagement and performance (indirectly or directly)

or detrimental thereby intensifying job demands and exhaustion and reducing performance. In their literature review particularly on the influence of office concepts on health and performance, De Croon, Sluiter, Kuijer, and Frings-Dresen (2005) identified that office concepts - such as open offices spaces and telework offices - can have positive as well as negative effects on performance and health by altering job demands and job resources. For instance, on the one hand, in an open office space with several workstations, employees oftentimes have direct eye contact with each other. Due to this proximity, employees can easily be distracted by their co-workers (McElroy & Morrow, 2010). This kind of interruption and disturbance is assumed to increase cognitive workload because employees need to stop regularly and then refocus on the task at hand. This can be an energy-draining activity - i.e., creating unnecessarily high job demands (cf. Demerouti, Bakker, Sonnentag, & Fullagar, 2012; Schippers & Hogenes, 2011), which, in turn, will lead to exhaustion and adversely affects performance. On the other hand, De Croon et al. (2005) note that that time-spatial flexibility can also increase resources thereby leading to better well-being and performance. For instance, Ten Brummelhuis, Bakker, Hetland, and Keulemans (2012) found in their study that once an employee has decision latitude in terms of responding to emails and phone calls, the general efficiency and effectiveness of communication should be increased leading to greater work engagement.

In line with these opposing effects, a systematic review by De Menezes and Kelliher (2011) on flexible work arrangements and performance-related outcomes also found that flexible working arrangements can be both beneficial and detrimental for employees and their organizations. They conclude that so far the evidence fails to provide a clear business case for flexible work arrangements, but that research should take into account moderators and mediators. We follow up on this with a more elaborate model.

2.3 PROPOSITIONS

2.3.1 Time-Spatial Fit as a Mediator

In light of the health-promoting and health-impairing influences of time-spatial flexibility on work engagement, exhaustion, performance, and work-life balance we argue that individuals can make choices over workplaces, work locations, and working hours that enable them to either exploit the advantages we have outlined above or run the risk of being affected by the disadvantages. Thus, times-spatial flexibility is not a good or bad thing per se; whether it

turns out favorably or unfavorably depends on how each individual uses the flexibility. Therefore, in order to remain productive, engaged and to keep a good work-life balance when faced with time-spatial flexibility; a first thing we propose is that employees need to ensure that their tasks and private demands fit to their work locations, workplaces, and working hours. They need to optimize the *time-spatial fit* when granted time-spatial flexibility. Analogous to the task-technology fit perspective (Goodhue, 1997), where workers optimize the fit between work tasks and technology and technology and their abilities, we define time–spatial fit as *the degree to which a given choice of work locations, workplaces, and times assists employees in performing their work tasks and private demands during a particular workday*. We propose that employees who have time-spatial flexibility need to match task- and private demands to designated places and locations (i.e. task-place/location fit and private demands-place/locations fit) and to working hours (i.e. task-time fit and private demands-time fit) in order to make the right choices over their work. In Figure 2.2 we demonstrate this time-spatial fit typology.

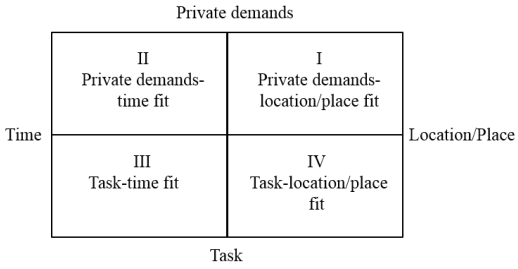


Figure 2.2. Time-Spatial Fit Categories

The upper half of the figure (Quadrants I and II) captures private demands in terms of time and location/place (i.e., private demands-time fit, private demands-location/place fit); the bottom half of the figure (Quadrants III and IV) represents task demands in terms of time and location/place (i.e., task-time fit, task-location/place-fit). Taken together, optimal engagement, performance, and work-life balance will be ensured if employees manage to create an optimal time-spatial fit when working flexibly. Thus, we suggest that the relationship between time-spatial flexibility on the one hand and job outcomes on the other hand will be mediated by time-spatial fit.

Proposition 1: Time-spatial fit mediates the relation between time-spatial flexibility and job resources, job demands, work engagement, exhaustion, performance, and work-life balance.

2.3.2 From Job Crafting to Time-Spatial Job Crafting

In order to optimize the time-spatial fit, employees should ideally engage in what we term *time-spatial job crafting*. In the work design literature, job crafting is seen as a specific form of proactive behavior and shares distinct features with it, such as initiative-taking behavior or anticipating a future situation and adapting behavior accordingly (Parker & Collins, 2010). The central tenet of current job crafting conceptualizations is that employees alter aspects of their job of their own accord. Originally, job crafting has been defined in terms of physical and cognitive changes that employees make to the task or to their relationships at work (Wrzesniewski & Dutton, 2001). According to the latter authors, employees may modify three different aspects of their job – namely the task itself, their relationships with others, and/or their perception of the job (i.e., cognitive crafting). Those job crafting actions are likely to alter the meaning and identity of work (Wrzesniewski & Dutton, 2001). Whereas the meaning of work refers to how people define and/or understand the purpose of their work, work identity denotes how "individuals define themselves at work" (Wrzesniewski & Dutton, 2001, p. 180). Wrzesniewski and Dutton (2001) argue that the reason for employees to engage in job crafting stems from three motivational sources. In the need for fulfilling three basic human necessities, employees craft their jobs to exercise some form of control over their work, to produce a positive self-image of themselves in their work, and to build and manage their social relations at work. Controlling at least some parts of their work prevents employees from negative outcomes such as alienation, even for jobs with a low level of autonomy. Creating and maintaining a positive self-image is not only meant for one self but also for others. In line with social identity theory, humans try to maintain a positive self-concept, thus, if something in their work puts this self-concept into danger, employees are likely to change this aspect of their work.

Recently, scholars extended the conceptualization of job crafting to also include self-initiated skill development (Lyons, 2008) and modifying job demands and resources (Tims, Bakker, & Derks, 2012) of which the latter extension has gained ample attention from scholars. According to Tims et al.'s (2012) reasoning, employees proactively increase structural and social

job resources, as well as challenging job demands and decrease hindering job demands. While increasing structural or social job resources refers to behaviors such as feedback-seeking and developing one's own capabilities, decreasing hindering job demands is targeted at making work less mentally and emotionally exhausting. Thus, hindering job demands prevent from achieving specific work goals and have detrimental effects on performance and well-being. Even though employees try to minimize the exposure to hindering job demands, there are certain demands in one's job which result in positive outcomes for the employee. Challenging job demands are for instance taking on extra work if it is of one's interest or being at the front end when it comes to trying out or developing new things (Tims et al., 2012). Scholars have found that crafting in terms of job resources and demands turns out favorable for employee well-being, particularly for work engagement (e.g., Bakker, Tims, & Derks, 2012; Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012).

Taken together, those previous job crafting approaches define job crafting solely in terms of characteristics of the job such as making changes to tasks and relationships at work (Wrzesniewski & Dutton, 2001) or in terms of job demands and job resources to encompass a greater variety of job characteristics (Tims et al., 2012). Yet they are relatively mute about how job crafting is related to contextual aspects such as the time and spatial dimensions of work. In today's new world of work, knowledge workers are able to execute their work activities anywhere anytime, but those practices have led to both positive and negative outcomes for employee well-being, performance, and work-life balance. Hence, it is increasingly important that employees proactively craft changes to the location and timing of work to remain engaged, productive and to retain their work-life balance. Proactively changing the timing and location of work is important for employees to reap the benefits of time-spatial flexibility. However, existing job crafting conceptualizations have not been applied to time and spatial flexibility despite its increasing usage and ambiguous outcomes. Thus, the extension that we make is that in the context of time-spatial flexibility, the time and location/place categories become subject to job crafting. We call this type of job crafting *time-spatial job crafting* where employees make active changes to their work, relating to working hours, places, and locations of work. Time-spatial job crafting and the previously discussed existing job crafting approaches can co-exist. For instance, employees who came to the conclusion to work from home on a particular day can still change the scope or number of their tasks to derive a different meaning for their work

or they can still ask colleagues for advice (increasing social job resources) (e.g., through the use of ICT).

We define *time-spatial job crafting* as a context-specific type of job crafting in which employees (a) reflect on specific work tasks and private demands; (b) select workplaces, work locations, and working hours that fit those tasks and private demands; and (c) possibly adapt either their place/location of work and working hours or tasks and private demands to ensure that these still fit to each other thereby optimizing time-spatial fit. This definition is analogous and similar to the self-regulatory construct of reflexivity, which has been defined at the group level as "the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies (e.g., decision making), and processes (e.g., communication), and adapt them to current or anticipated circumstances" (West, 2000, p. 296). Reflexivity is said to consist of three different components, namely reflection, planning, and action (for reviews see Konradt, Otte, Schippers, & Steenfatt, 2015; Schippers, Edmondson, & West, 2014), which represent an iterative cycle of reflection, planning, and action (Schippers, West, & Edmondson, 2017). Similarly, we suggest that time-spatial job crafting also consists of three different components, namely reflection, selection, and adaptation that can be presented in a chain of reflection, selection and if necessary, adaptation.

2.3.3 Components of Time-Spatial Job Crafting

Reflection. Reflection at the individual level is usually understood in terms of a learning process among individuals in which they examine their past behavior and assess its contribution to performance (for a review, see Ellis, Carette, Anseel, & Lievens, 2014). According to Schön (1983) reflection represents serious consideration of past actions and experiences with the aim to evaluate them for future actions. Indeed, reflection in the organizational learning literature is recognized as one central element in learning (Høyrup, 2004; Moon, 1999). Applying this to the context of time-spatial flexibility, reflection can be regarded as a deliberate process of thinking about the tasks and private demands and working hours, places, and locations of work available on any particular day. While considering all the difference alternatives, employees may use past experiences to evaluate workplace options for their current choice. They may think about their past workplace/work location and working hour choice and reflect on the benefits/drawbacks of this choice. There is evidence that reflection increases

awareness in a variety of contexts – for example, students' self-awareness of their personal learning style (Kanthan & Senger, 2011), knowledge of mental mistakes (Kahneman, 2011), and awareness of biases and errors (Schippers et al., 2014). Building on this literature, we propose that reflection on tasks and private demands is likely to foster awareness of the requirements of a particular workday and sensitizes employees to the nature of each workplace, work location, and working hours. As such, reflection constitutes the cognitive component of time-spatial job crafting. Once employees have reflected, they can more readily engage in selection, which constitutes the behavioral component.

Selection. Selection can be understood here as the actual choice of working hours, work locations, and workplaces, which is then likely to play a part in reaching the best time-spatial fit. The actual choice of a workplace, work location or working hour is the result of the conscious consideration among alternatives (cf. Vohs et al., 2008). In such a reflective system (Strack & Deutsch, 2004), selection is the outcome of reasoning leading to the choice about the viability of a given action, which is in our case the selection of the right workplace, location or working hour (cf. Ajzen, 1991; Bandura, 1997). Selection may be equal to action in the reflexivity literature, which is defined as "goal-directed behaviors relevant to achieving the desired changes in team objectives, strategies, processes, organizations or environments identified by the team during the stage of reflection" (West, 2000, p. 6). Action is seen as a means to try out assumptions by practical experience (Widmer, Schippers, & West, 2009).

The processes described earlier in terms of reflection and selection may hold true for days that are fairly predictable. For instance, when employees know in advance that on a particular workday they need to pick up children from school, this may well result in a decision to work from home. Yet, as not all days are equally plannable due to unforeseen demands, time-spatial job crafting also includes an element of adaptation, which increases in importance when employees are working from a workplace inside the central office.

Adaptation. Sometimes employees may face hindrances that prevent them from executing their work tasks in their desired place/location or during the desired time and also perceive problems and/or constraints that may disable them to make the best timing or location decision. Berg, Wrzesniewski, and Dutton (2010) argue that job crafting may be a more enduring process that can contain adjustments and change, which result from the perceived challenges that limit the opportunities for job crafting. On the individual level, "adapting, or adapting responses, denotes performing adaptive behaviors that address changing conditions" (Hirschi,

Herrmann, & Keller, 2015, p. 1) and we propose that behaviors such as either changing the workplace, work location or working hours or changing particular tasks/private demands denote illustrations of adapting within the time-spatial job crafting construct. Key of adaptation in time-spatial job crafting is that timing/location or tasks choices may be adapted in hindsight. Various circumstances may require adaptation. First, it is often the case that employees only realize in hindsight that they made the wrong choice in terms of the time-spatial fit. For instance, even though employees might know that they actually need to work in silence, they could still decide to work in the open office space in order to sit next to a particular colleague they have not seen for a while. Second, depending on the occupancy rate, the reverse situation is also possible. For instance, by means of reflection, employees may conclude that they need a high level of concentration. If the only workplace that is free within the open office space and commuting back home is not an option, employees may choose to engage in a different task. Third, most workdays involve multiple activities that cannot be readily foreseen in the morning but which may require several different types of workplaces. Therefore, employees also need to adapt where they work to make sure that the workplaces are appropriate to the task at hand. This also suggests that employees need to be able to adjust their work situation "on the fly"; thus having mini chains of reflection/selection/adaptation each day. In Table 2.1, we exemplified time-spatial job crafting behavior according to the three dimensions. Overall, we propose that:

> **Proposition 2:** Time-spatial job crafting consists of a cognitive component, namely reflection, and two behavioral components, namely selection and adaptation.

Form	Example Reflection	Example Selection	Example Adaptation
Time-job crafting-Tasks and Private demands	Underlying questions: What do I need to do today? -Today, I need to finish a paper, write emails, and have two meetings with colleagues What are my private demands for today? -Today, I need to bring my kids to school Specific questions: Which working times do I have available for my tasks and private demands? -My day today begins at 6PM and ends 10PM; standard office hours are from 8AM-5PM, but I can also work before or after that - I need to bring my kids to school before 9AM -I have a meeting at 3PM with my colleagues	-I choose to start working after I will have brought my kids to school - I will work on the paper I need to finish in the morning because I am most productive in the morning -I will write emails in the afternoon	-I need to finish answering my emails in the evening because I did not finish writing my paper in the morning and used the time in the afternoon for my paper
Spatial-job crafting-Tasks and Private demands	Underlying questions: What do I need to do today? -Today, I need to finish a paper, write emails, and have two meetings with colleagues What are my private demands for today? -Today, I need to bring my kids to school Specific questions: Which working locations/work places do I have available for my tasks and private demands? -I can work from home, on the go and from the different office spaces inside the office	-I decide to work from home in the morning since I need to work in piece in quiet to finish my paper - I drive to the office after lunch because I have a meeting at 3PM with colleagues - I decide to work in the open office space so that I can sit close to my colleagues and also because a closed office space was not available to continue working on that paper	-I switched my office place to a closed office space because it was hard for me to concentrate on the paper in the open office space

Table 2.1. Forms of Time-Spatial Job Crafting and Examples

2.3.4 When is Time-Spatial Job Crafting important? A Moderated Mediation Perspective

As suggested above, time-spatial job crafting is essential in optimizing time-spatial fit. While time-spatial flexibility can have both desirable and undesirable consequences for work

engagement, performance, and work-life balance due a time-spatial fit or misfit, the extent to which this occurs may be contingent upon time-spatial job crafting. As we have postulated, working in an open office space is likely to lead either directly or indirectly to exhaustion in that the workload (job demand) is intensified due to increased interruptions and distractions from colleagues. At the same time, working in an open office space can also be experienced as positive for engagement, particularly in terms of social support (job resource) from colleagues. Whether employees experience this environment as beneficial or detrimental depends on their requirements of a particular workday. Time-spatial job crafting is likely to help employees realize these resulting in an optimal time-spatial fit.

For instance, on a particular workday, employees may come to the conclusion that they need to engage in focused work and that they will not require a high level of support from colleagues or supervisors (time-spatial job crafting in terms of the task) and that they need to pick up their children from school at 4PM (time-spatial job crafting in terms of private demands). Once they have reached that conclusion, they are more likely to choose to work in a silent room or from home rather than in an open office space (selection). This would result in the best time-spatial fit for this particular day augmenting work engagement, performance, and work-life balance. When employees are able to seek out work environments and working hours that fit their private and task needs, they are more likely to invest their capabilities fully at work and this should give them more energy and should make them more productive and result in a greater work-life balance. Hence, by modifying time and spatial aspects of the job so that these fit employee's own task and private demands, they are likely to boost their own engagement, performance, and work-life balance. Prior research has indeed shown that job crafting behavior is linked to higher work engagement (e.g., Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims, Bakker, & Derks, 2013). Hence, the indirect relation between time-spatial flexibility, job resources, work engagement, performance, and work-life balance will be more positive for employees who engage in time-spatial job crafting and more negative for individuals who do not engage in time-spatial job crafting (due to an increased time-spatial fit). The reverse holds true for the suggested indirect relation between time-spatial flexibility, exhaustion, and job demands.

Proposition 3: The mediational chain of time-spatial flexibility – time-spatial fit – job resources/job demands and work outcomes is moderated by time-spatial job crafting. The indirect relation is more positive for individuals high in time-spatial job crafting.

2.3.5 Antecedents of Time-Spatial Job Crafting

As engaging in time-spatial job crafting seems to be critical in the new world of work, this raises the question what triggers employees to do so. The willingness to engage in time-spatial job crafting is likely to depend on various individual and organizational characteristics. On the individual side, we argue that if employees have a negative attitude regarding time-spatial flexibility it seems unlikely that they will use time-spatial job crafting to make optimal use of time-spatial flexibility. Attitudes are understood as favorable or unfavorable judgments regarding objects, people, or events (Robbins & Judge, 2014), hence we understand a positive attitude towards time-spatial flexibility as employee's favorable judgments about the practice. This involves for instance seeing the benefits of time-spatial flexibility in terms of places as activity-specific spaces, which help to accomplish tasks more efficiently. With regard to time-flexibility, adjusting working hours in a flexible manner also needs to be regarded as valuable for one's work in order for employees to engage in time-spatial job crafting. If employees do not see these benefits, it is highly unlikely that they will engage in time-spatial job crafting.

Proposition 4a: Employees are more likely to engage in time-spatial job crafting when they have a positive attitude towards time-spatial flexibility.

Next to this, boundary management style is an important antecedent of time-spatial job crafting, however, we argue only for time-spatial job crafting in terms of private demands. Boundary management style refers to "a general approach an individual uses to demarcate boundaries and regulate attending to work and family roles" (Kossek & Lautsch, 2012, p. 155). Individuals thereby make use of different boundary management styles to manage those boundaries. Kossek and Lautsch (2012) proposed that next to the separation-integration continuum, where individuals either separate or integrate work and family, individuals can also adopt a more hybrid approach alternating between separation and integration. The extent to which employees employ either of these styles depends on their boundary-crossing preferences

and their work-family role identity centrality (Kossek & Lautsch, 2012). While segmented boundaries result in a higher inflexibility and in a more rigid separation of roles in terms of times and place, integrated boundaries foster greater integration of roles.

Time-spatial job crafting is different from boundary management in the sense that it does not explicitly relate to solving conflicts between work and family life. Our time-spatial fit matrix showed on the one hand that employees who have time-spatial flexibility need to find a fit between time and place/location and their tasks; this solely concerns making choices with respect to their work role for which time-spatial job crafting is likely to help. On the other hand the time-spatial fit matrix also referred to finding a fit between time and place/location and private demands. Time-spatial job crafting helps employees finding this fit and this is where boundary management style may come into play. We argue that an employee's preference for integration, separation or alienation will influence time-spatial job crafting in terms of reflecting and choosing where and when to work aligned with private demands. A preference for a particular boundary management style will help employees in reflecting about the different options available and will ultimately result in selecting a specific work location which is in line with the employee's boundary management style. For instance, employees who prefer to separate home and work in a strict manner, are more likely to come to the conclusion that it is not advisable for them to work from home when kids are around (reflection) and thus choose their timing of work (selection) in such a manner that it does not interfere with family responsibilities (e.g., going to the office earlier, finishing un-finished tasks the next day).

> **Proposition 4b:** An employee's boundary style preference for integration, separation or alienation will influence time-spatial job crafting in terms of private demands.

At the organizational level certain aspects related to the organizational culture may also play a role. If employees perceive that flexible working is not accepted within the organization, or fear negative consequences for their career, it seems unlikely that they will use time-spatial job crafting to make optimal use of time-spatial flexibility. Research at Microsoft Netherlands, which moved towards new ways of working, has shown that it is indeed important that the whole organization including the CEO of the company approves of this change process (van Heck, van Baalen, van der Meulen, & van Oosterhout, 2012). If an employee realizes that fellow colleagues do not appreciate him or her working flexible, it is highly unlikely that this

employee will engage in time-spatial job crafting to make the most out of time-spatial flexibility. That is indeed what Fursman and Zodgekar (2009) found in their study. Employees reported as one barrier to make use of time-spatial flexibility a non-supporting organization. Likewise, if an employee recognizes that flexible working has detrimental effects on his or her career, it is also not very likely that he or she will become a time-spatial job crafter. Prior research has shown that employees are less inclined to make use of time-spatial flexibility when they fear negative consequences for their career (Fursman & Zodgekar, 2009). Taken together we suggest that

> **Proposition 4c:** Employees are more likely to engage in time-spatial job crafting when they perceive that the organization and co-workers accept time-spatial flexibility.

> **Proposition 4d:** Employees are more likely to engage in time-spatial job crafting when they do not fear negative consequences for their career.

2.3.6 Intricacies to Time-Spatial Job Crafting

While the preceding discussion suggests that reflecting on and selecting workplaces, work locations, and work hours is straightforward, in fact on any given workday employees may face conflicting demands that make the selection of the right workplace/work location or working hours more difficult. Making choices turns out to be more troublesome at whatever point various needs, objective or values, are in conflict (Brandstätter, Gigerenzer, & Hertwig, 2006). For instance, even though employees would perhaps like to work from home so that they can work in perfect silence, at the same time, they also might have several meetings that require them to be at the main office. Also, the choice over when and where to work may also depend on the choices of colleagues. Evidence suggests that employees base their workplace/work location choice on the decision of their colleagues (Rockmann & Pratt, 2015), which may not be in line with private or task demands.

According to many theories of human behavior, conflicts can be managed through trade-offs (Brandstätter et al., 2006). In line with this reasoning, in such situations, employees need to make a trade-off between conflicting work and/or private demands. Here, time-spatial job crafting is likely to help employees to become aware of these opposing demands and help them to find the optimal fit for the task to be carried out. Which of the needs for concentration

or interaction will in the end drive the decision about where and when to work depends on the importance and urgency of the needs (cf. Covey, Merrill, & Merrill, 1994). In line with Eisenhower's performance Matrix, Covey et al. (1994) describe a time management strategy, which should help people to organize their different priorities along two dimensions, namely urgency and importance. We suggest that employees who are faced with conflicting demands to organize their work-work or work-private demands into the urgent/not urgent and important/not important dimensions, too. To stick with our example, employees might face an important deadline on the next day, which means that carrying out their task is both urgent and important. In contrast, the meetings that the employees have may be important, too; however, no urgent action needs to be taken. Based on this analysis, employees might come to the conclusion to stay at home and make use of videoconferencing to still take part in the meetings.

This is not to say that making such a trade-off is easy to do. Conflicting demands can create what is commonly termed role ambiguity (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), which has been defined as a "lack of the necessary information available to a given organizational position" (Rizzo, House, & Lirtzman, 1970, p. 151). This role ambiguity creates extra effort; effort in the form of more reflection, selection, and potentially adaptation. Thus, time-spatial job crafting can be an activity strenuous in itself, although one would also expect that over time "practice makes perfect", and choices can be made with less effort. Consequently, it is likely that the proposed benefits of time-spatial job crafting will be less strong in the short run and increase in the long term (cf. Schippers, Homan, & van Knippenberg, 2013).

> **Proposition 5:** Time-spatial job crafting is likely to be exhausting in itself, and therefore, the positive role of time-spatial job crafting in the indirect relation between time-spatial flexibility and job resources/job demands and work outcomes will be more positive in the long-term than in the short-term.

2.4 DISCUSSION

In this chapter, we have explored the implications of time-spatial flexibility for employee work engagement, exhaustion, performance, and work-life balance. We have applied proactive work design literature to the JD-R model to explain that individuals can make choices over workplaces, work locations, and working hours that enable them to either exploit the

advantages of time-spatial flexibility or run the risk of being affected by the disadvantages. In order for employees to make the best choice in terms of their tasks and private demands, we introduced the concept of time-spatial job crafting as a context-specific type of job crafting. We proposed that employees may use time-spatial job crafting as a technique that allows them to reap the benefits of time-spatial flexibility and avoid its drawbacks to optimize time-spatial fit.

2.4.1 Theoretical Implications

Theoretically, the model extends the scope of the JD-R literature. Previous literature has shown that flexibility can have both - a positive and negative effect on job resources and job demands; and through time-spatial fit and time-spatial job crafting, we explained when flexibility will be positive and negative. In addition, we extend the job crafting literature to the context of new ways of working. Whereas the traditional job crafting literature construes job crafting in terms of job characteristics (Tims et al., 2012; Wrzesniewski & Dutton, 2001), we postulated that other aspects of the job can also be subject to job crafting and this becomes especially important when working flexibly. Time-spatial job crafting is offered as a tool that should help employees to exploit time-spatial flexibility and that can be regarded as an optimization strategy for using various workplaces, work locations, and working hours. The suggested positive role of time-spatial job crafting should enable employees to better deal with flexibility and should have a positive impact on work engagement, performance and work-life balance. We stressed throughout the chapter that employees need to become proactive if they want to reap the benefits of time-spatial flexibility. This chapter therefore highlighted the importance of bottom-up approaches to work design. Bottom-up approaches of work design that emphasize the role of employees as proactive agents have recently extended the traditional top-down job design literature (Demerouti & Bakker, 2014). We also add to the work done in the more engineering-like fields of work-design research, because we explain how the best possible work design might fail, if people are unable to make use of it properly.

2.4.2 Managerial Implications

As HR managers are constantly assessing how different workplace settings may influence performance (Okhuysen et al., 2013), the insights we provide should give them a greater understanding of how work-settings change the nature of work and consequently

influence human behavior. Demonstrating the importance of time-spatial job crafting to ensure that employees are able to use various work places, work locations, and working hours optimally could become a crucial aspect of managers' agenda. By making employees aware of how they can make changes within their environment if they reflect on what is needed, managers can show employees how they themselves can increase their own well-being, performance, and work-life balance. This can be achieved, for instance, through a time-spatial job crafting intervention, in which they learn what they themselves can do to enjoy working in such an environment. Van den Heuvel, Demerouti, and Peeters (2015) have shown the success of a job crafting intervention among the Dutch police force. With a job crafting training, police officers' awareness of how they could adapt their job to their own preferences was increased and by the end of the intervention, police officers said that they felt more engaged in their work. Therefore, it is important that organizations that embrace time-spatial flexibility should invest in this type of training.

2.4.3 Limitations and Future Research

The time-spatial job crafting perspective on work-engagement, performance, and work-life balance affords several valuable research opportunities. First of all, researchers interested in new ways of working and well-being should empirically address the influence of time-spatial flexibility on work engagement in particular. Second, it would be interesting to use an intervention study to test the concept of time-spatial job crafting. Similar to the job crafting intervention study of van den Heuvel et al. (2015) among a police force, one could set up an intervention study in an organization that allows employees to work in a flexible manner. To see the effects of time-spatial job crafting, one group of employees would be given a training about time-spatial job crafting and then practices time-spatial job crafting for one week by means of daily questions about when and where to work and time-spatial job crafting. Daily questions about job resources, job demands, performance, work engagement, and work-life balance can also potentially be asked. The other group can be waitlisted and receives the intervention at a later stage. With this intervention, one may hope to find increases in work engagement, work-life balance, and performance. In a similar vein, one could also evaluate such a time-spatial job crafting intervention using a case-study approach and conduct interviews to evaluate the effectiveness of such an intervention.

Also, time-spatial job crafting imposes interesting challenges for leadership and cooperation. If employees are allowed to engage in time-spatial job crafting, and every employees adjusts time and location choices to his or her own preference, this requires on the one hand increased coordination among employees but also challenges for the leadership. Interesting leadership questions the model might provoke are: Is there a preferred leadership style for time-spatial job crafting? How can a leader facilitate employees to engage in time-spatial job crafting? What does time-spatial job crafting mean for leader-membership exchange? It is also interesting in itself to know how to foster good time-spatial job crafting and for whom it may work best. For instance, interesting to investigate in a quantitative study might be whether there exist generational differences in time-spatial job crafting behavior. One might assume that it is easier for generation Y to embrace time-spatial job crafting since they are "pragmatic, open-minded, (…), innovation-oriented, [and] eager to experiment with new solutions" (Sujansky & Ferri-Reed, 2009, p. 135). Longitudinal studies should also address the long-term consequences of time-spatial job crafting. This is important to investigate as we indicated at the start of the chapter, that we restricted our suggestions to organizations that offer employees time-spatial flexibility. Also, it is conceivable that once employees become used to working in a flexible manner and where the task structure stays stable, time-spatial job crafting can also become a more routine-based behavior (cf. Schippers et al., 2014). In the early phases of transition, conscious reflection may be needed; however, it is likely that after some time employees will become used to working in this kind of setting, so there will be less need for them to undertake time-spatial job crafting. This may be an interesting notion for future research to see whether time-spatial job crafting can positively contribute to work engagement, performance, and work-life balance above and beyond its daily effects.

An important caveat to the concept of activity–based areas in general is that there are certain tasks, such as writing emails or correcting documents that could technically be undertaken from many different workplaces. Where this actually takes place will depend on personal preferences. While some employees prefer to answer an email in private, other workers do not mind doing so within the open office space. A possible avenue for future research may be to explore the role of personal preferences in choices regarding workplace and working hours.

2.5 CONCLUSION

In the last two decades, time-spatial flexibility has become a popular approach to redesigning work. A considerable literature emerged to examine the relationship between time-spatial flexibility and various outcomes, amongst other well-being, performance, and work-life balance. However, previous research failed to demonstrate an unequivocal business case for time-spatial flexibility identifying both positive, negative, and 'null' effects on well-being, performance, and work-life balance. We proposed time-spatial fit and time-spatial job crafting as an important mediator and moderator that may help explain why prior studies found diverging and contradicting results. We posited that in order for employees to profit from time-spatial flexibility, time-spatial job crafting – a context-specific form of job crafting that entails reflection on time and place/location– can be seen as a strategy for staying well and being productive. Accordingly, we offer a greater understanding of time-spatial flexibility for managers and a new direction for scholars examining new ways of working: time-spatial job crafting ensures that workers reflect in order to optimize time-spatial fit.

Chapter 3

Reaping the Benefits of Flexible Working Practices: Daily Time-Spatial Job Crafting and Media Job Crafting as Means to Exploit Flexible Working Practices[2]

Abstract

Prior scholarly work on flexible working practices has demonstrated opposing effects on well-being, performance, and work-life balance showing a need for research on how employees can exploit its benefits. Time-spatial job crafting and media job crafting – two context-dependent types of job crafting that entail reflection on working hours, working locations, and on communication media – may be regarded as a strategy to reap the benefits of flexible working practices. In the current diary study we examine the relationship between time-spatial job crafting and media job crafting and performance, work engagement, and work-life balance using a diary study over 5 workdays among 56 employees (265 observations). Our results demonstrate that daily media job crafting was positively related to employees' performance and work-life balance. The interaction effect between daily time-spatial job crafting related to private demands and daily media job crafting showed that the effect on work engagement, performance, and work-life balance was more positive when one was high and one was low.

[2] Parts of this chapter have been appeared in the following peer reviewed conference proceedings as:
Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2016). Proactively coping with flexible work practices: Testing a context-specific model of job crafting. In Proceedings of the Annual Meeting of the Academy of Management, (AOM 2016), August 5-9 2016, Anaheim, USA.
Parts of this chapter has been accepted for presentation at the 18th European Congress of Work and Organizational Psychology, (EAWOP 2017), May 17-20, 2017, Dublin, Ireland as:
Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2017). Daily time-spatial job crafting and media job crafting as means to exploit time-spatial flexibility.

3.1 INTRODUCTION

Digitalization opened up many possibilities for employees to create their working days in a highly flexible manner. In particular, those advances in information and communication (ICT) technologies enabled organizations to offer flexible working policies in which employees are allowed to work from where they want (e.g., from home, on the go, in the office) and when they want (e.g., before regular office hours, after regular office hours) (Baarne, Houtkamp, & Knotter, 2010; Hill et al., 2008). Thereby employees rely heavily on the usage of various communication media (e.g., email) and the last decade has experienced a tremendous growth in new communication media (e.g., messenger, Skype, teleconferencing, Yammer) to collaborate and to stay in contact with co-workers (Westerman et al., 2014a). Hence, employees are confronted to make an increasing number of choices related to when to work, where to work, and which communication medium to choose. Yet, it seems that employees struggle to make informed choices in this regard preventing them to exploit the advantages of this increase in flexibility.

Prior studies have indeed identified that flexible working practices not only bring about positive effects for performance, work engagement, and work-life balance (e.g., Gajendran & Harrison, 2007; Kelliher & Anderson, 2008) but also lead to negative consequences (e.g., Brennan, Chugh, & Kline, 2002; Kelliher & Anderson, 2008; for a review see De Menezes & Kelliher, 2011) and according to De Menezes and Kelliher (2011) a clear business case for flexible working practices is yet to be made. Next to leading to more efficient communication (ten Brummelhuis et al., 2012), usage of different communication media can also increase stress levels, reduce well-being, and can result in performance losses (e.g., Barber & Santuzzi, 2015; Mazmanian, Orlikowski, & Yates, 2013). This disconcert may be the result of the negligence of paying attention to important individual and organizational mediators (e.g., autonomy) and moderators (e.g., prior experience with flexible working) (De Menezes & Kelliher, 2011). We argue that these inconsistencies may also stem from a lack of reflection about the different choices in this regard and propose that whether flexible working practices and the usage of various communication media lead to positive or negative outcomes may be contingent on the extent to which employees engage in *time-spatial job crafting* (for a review see Chapter 2) and *media job crafting*.

Employees as active crafters of their job has indeed been recognized as being key for work engagement, thriving, resilience, job satisfaction, and performance in today's complex world of work (e.g., Berg, Dutton, & Wrzesniewski, 2008; Demerouti & Bakker, 2014). Job crafting involves proactively making changes to job characteristics like tasks and relationships at work (Wrzesniewski & Dutton, 2001) or job demands and job resources (Tims, Bakker, & Derks, 2012). Although the importance of such bottom-up approaches of job design has been widely emphasized by scholars and extended the traditional top-down job design literature (Demerouti & Bakker, 2014), previous research has substantially left unexplored how job crafting is related to contextual aspects of work such as the time and spatial dimensions of work and the usage of communication media.

Time-spatial job crafting can be regarded as a fruitful context-dependent type of job crafting in which employees make informed choices about work locations and working hours. They do so by means of a process of reflecting, selecting, and, if needed, adapting to ensure their own engagement, performance, and work-life balance thereby being able to reap the benefits of flexible working practices. Relatedly, we propose that it is not only important to time-spatially job craft with regard to the location and timing of work but also to proactively change the usage of communication media by engaging in what we term *media job crafting*. The usage of ICT determines working life and changed how employees experience time and spatial dimensions of work (Hoonakker & Korunka, 2014). Given the variety of communication media to use and their diverging purpose (Dennis, Fuller, & Valacich, 2008; Hoonakker & Korunka, 2014), we argue that employees are required to make informed choices as to which medium (or combination of media) to use for which kind of message. This is important because each communication medium has its own ability to transfer certain information (Daft & Lengel, 1986) and different capabilities (Dennis et al., 2008). For instance, if employees need to transfer a message that is quite equivocal and technical involving novel content, the combination of using both a written medium (e.g., email) and a richer medium (e.g., videoconferencing or face-to-face) may be most suitable. A written medium in that case allows both the rehearsibility and reprocessibility of the message (Dennis et al., 2008) and a richer medium may allow for follow-up clarifications (Daft & Lengel, 1986). Yet, it is unclear how employees can make those choices that lead to the selection of the right medium. To this end, we propose *media job crafting*, which, similar to time-spatial job crafting, also involves the elements of *reflection* (about the medium and

the message), *selection* (of the right medium to get the message across), and if needed *adaptation* (in the sense of changing the medium).

In the present chapter we aim to test whether daily time-spatial job crafting and daily media job crafting relate to work engagement, performance, and work-life balance. In so doing, we hope to gain important insights into how people make daily decisions on media usage and propose that this enables employees to reap the benefits of flexible working practices. Specifically, we draw from job crafting literature (Tims et al., 2012; Wrzesniewski & Dutton, 2001) and media theories (Daft & Lengel, 1986; Dennis et al., 2008) to integrate these two and to extend the job crafting literature to the context of flexible working practices and communication media usage. Besides, our research has important implications for practices as it aims to show that employees can use time-spatial job crafting and media job crafting as means to stay engaged, productive, and to retain their work-life balance.

In the following, we first explain the idea of time-spatial job crafting and introduce media job crafting. We then relate both time-spatial job crafting and media job crafting to work engagement, performance, and work-life balance. Finally, theoretical and practical implications as well as limitations of the study are discussed.

3.2 THEORY AND HYPOTHESES

3.2.1 Time-Spatial Job Crafting Explained

Scholars have recognized the need of employees as active crafters of their own work in order to create a fit with their own skills (Wrzesniewski & Dutton, 2001). Traditionally, job crafting has been defined as proactive behavior by employees aimed at making changes to job characteristics such as tasks where employees modify the scope or number of tasks and/or relationships where employees proactively alter the frequency or the type of social interactions or how they perceive their job (Wrzesniewski & Dutton, 2001). Tims, Bakker, and Derks (2012) extended this definition to the job demands-resources model where employees proactively increase structural job resources or challenging job demands and decrease hindering job demands.

Building upon the idea that employees are active crafters of their own job, in Chapter 2 we introduced the concept of time-spatial job crafting as a context-specific type of job crafting and follow this conceptualization in the current chapter. In Chapter 2 we argued that previous job crafting conceptualizations have not been applied to contextual aspects such as the time and spatial dimensions of work; yet we deemed this is to be important in view of the increasing usage of flexible working practices paired with its equivocal outcomes for well-being, performance, and work-life balance. *Time-spatial job crafting* was defined as a "context-specific type of job crafting in which employees (a) reflect on specific work tasks and private demands; (b) select workplaces, work locations, and working hours that fit those tasks and private demands; and (c) possibly adapt either their place/location of work and working hours or tasks and private demands to ensure that these still fit to each other (…)" (Chapter 2, p.28). Thus, time-spatial job crafting consists of three different components, namely, reflection, selection, and adaptation and can be distinguished into time-spatial job crafting related to tasks and related to private demands. Reflection as the cognitive component is deemed as a deliberate process of thinking about work tasks (e.g., writing emails, meetings with colleagues, finishing a report) and private demands (e.g., bringing kids to school, doctor's appointment) and working hours (e.g., in the morning, in the evening) and locations (e.g., home, office, on the go) during a particular workday. Selection as the behavioral component represents the actual choice of working hours and locations that fit to the tasks and private demands on a particular day. Time-spatial job crafting can also encompass an element of adaptation to correct for a 'wrong' choice made earlier on. On page 30 in Chapter 2 we suggested that behaviors such as "either changing the workplace, work location or working hours or changing particular tasks/private demands" represent adaptation efforts. Those adaptation efforts occur in hindsight and do not necessarily have to occur. If the worker decides upon reflection that the current location will do for the task at hand, adaptation is not needed. Thus, time-spatial job crafting is introduced as a tool that can help employees to reap the benefits of flexible working practices by proactively crafting changes to the location and timing of work to remain engaged, productive, and to retain one's work-life balance.

3.2.2 Consequences of Daily Time-Spatial Job Crafting

In the context of flexible working practices, employees need to make work location and working hours choices on a daily basis and thus, work-related outcome variables such as work engagement or performance are likely to fluctuate on a day-to-day basis. Indeed, diary studies in the area of flexible working practices indicated that the level of work engagement fluctuates; over 40 percent of the variability are above and beyond between-person-level differences and are to be explained by within-person level differences (ten Brummelhuis et al., 2012). In light of the daily choices employees have to make with respect to work locations and working hours, we argue that both time-spatial job crafting related to tasks and private demands turn out beneficial for work outcomes (work engagement and performance) and work-life balance on a daily level. Employees that engage in time-spatial job crafting on a daily basis reflect carefully about where and when to work and are thus more likely to select work locations and working hours that match to work tasks as well as to private demands for a particular day. Hence, they are more likely to perform their work tasks in an environment that fits perfectly to their needs and satisfies their private demands on a specific working day and thus, should feel more engaged and productive for that working day. Being proactive in terms of time-spatial job crafting should help employees to attend to their own task and private needs, which should positively influence engagement and performance. Prior research that defined job crafting behavior in terms of job demands and job resources has shown that employees who job craft experience higher work engagement and performance (e.g., Petrou et al., 2012; Tims et al., 2013). It is not only assumed that time-spatial job crafting is positively related to work outcomes on a daily level but also that it improves work-life balance of an employee on a day-to-day basis. Carefully thinking about which work locations and working hours match best to both private and task demands should enable employees to find a better fit between work and private obligations and thus, should lead to greater work-life balance. In spite of its primary objective of balancing obligations from both work and private life in a better way, prior research found equivocal results concerning the effectiveness of flexible working practices for work-life balance (Allen & Shockley, 2009). Some studies found that flexible working practices have a positive influence on work-life balance (e.g., Gajendran & Harrison, 2007; Hammer, Allen, & Grigsby, 1997; Hill, Ferris, & Märtinson, 2003; Madsen, 2003); other studies reported a decrease in work-life balance because of increased blurring of boundaries between home and work (Kurland & Bailey, 1999), and the problem of "telepressure" or the felt need to stay connected, even on

days off (Barber & Santuzzi, 2015). We argue that time-spatial job crafting creates an additional level of awareness of these blurring boundaries. Hence, if employees decide to work from home on a particular day because they need to pick up children from school or they need a high level of concentration, by means of reflection prior to the actual choice, they will be aware that working from home leads to greater home and work integration. However, this should not lead to serious problems as employees consciously chose for this option and working from home was the best option among several alternatives. This should positively influence their work-life balance on that day. On top of that, through the process of reflection, employees are more likely to complete their work tasks in a location during specific working times that fit to their needs and satisfy their private demands on a specific working day and thus, this should contribute positively to their work-life balance as well. Consequently we argue that:

> **Hypothesis 1:** In the context of flexible working practices, daily time-spatial job crafting related to tasks is positively related to daily performance (1a), daily work engagement (1b), and daily work-life balance (1c).

> **Hypothesis 2:** In the context of flexible working practices, daily time-spatial job crafting related to private demands is positively related to daily performance (2a), daily work engagement (2b), and daily work-life balance (2c).

3.2.3 Media Job Crafting

We argue that it is not only important to time-spatially job craft the location and timing of work but also to proactively change the usage of communication media. With communication media usage we explicitly refer to ICT that helps employees to communicate, collaborate, and coordinate with fellow employees irrespective of time and space. Working anywhere anytime is made possible through advances in ICT and thus, ICT represents an integral part of employee's workdays (Hoonakker & Korunka, 2014). While email has been the dominant communication medium for a considerable amount of time (Derks & Bakker, 2010), the inception of smartphones gave email communication an entirely new mobile element fostering constant availability (Brown, 2001) partly contributing to blurring boundaries between work and home (Derks & Bakker, 2014) and the problem of 'telepressure' (Barber & Santuzzi, 2015).

On top of that, videoconferencing tools such as Skype, instant messaging programs such as What's App or Microsoft Link, (business) social media sites such as Yammer or Facebook and Wikis provide employees with additional communication channels. Thus, employees have a vast variety of media to choose from and many media theories suggest (e.g., media richness theory, Daft & Lengel, 1986) that those media vary in their ability to transfer information or cues. In this context, for instance media richness theory advocates that depending on the equivocality of the task, employees need to choose a medium accordingly. Richer media (e.g., videoconferencing) are more suitable to transmit more equivocal tasks (Daft & Lengel, 1986). Extending the notion of media richness theory, Dennis, Fuller, and Valacich (2008, p. 576) introduced media synchronicity theory in which the authors argue that different media have different capabilities (transmission velocity, parallelism, symbol sets, rehearsability, reprocessability), "and the fit of media capabilities to the communication needs of the task influence the appropriation and use of media, which in turn influence communication performance." Thus, there exists no best medium to communicate about tasks; rather the most appropriate medium will be the one that best provides a set of capabilities that is needed to communicate about work tasks.

Yet, it is unclear how employees do make those choices that lead to the selection of the right medium. Prior research in this regard has identified on the hand that usage of communication media can lead to more efficient communication (ten Brummelhuis et al., 2012), however, on the other hand increasing stress levels, reduced well-being, and performance losses have also been found (e.g., Barber & Santuzzi, 2015; Mazmanian, Orlikowski, & Yates, 2013).

In order to facilitate a better usage of communication media when working anywhere anytime, we argue that employees shall ideally engage in what we call *media job crafting*. Media job crafting refers to the extent to which employees try to match communication media with the message they want to bring over. As well as time-spatial job crafting, media job crafting contains an element of reflection, selection, and adaptation. We define media job crafting as job crafting related to communication media usage in which employees (a) reflect on the content of the message they want to send (b) select a communication medium that suits those messages and (c) possibly check whether the message they sent has been received as attended and if not possibly switch to another medium that is more appropriate to bring the message across. We propose that this should help employees to increase their awareness of the peculiarities of each

communication medium and sensitizes them to the needs of the message they would like to convey. Possible questions employees may ask themselves in the reflection process are: What is the content of the message? Purely task-oriented or does it also have a personal element? How complex is the task that I would like to convey in the message? Is it straightforward or does it involve ambiguities? Reflection generates more clarity over the purpose of the message and hence, should facilitate the right selection of the communication medium. Yet, it may be the case that the response obtained to a certain message does not reflect its intended meaning. Thus, sometimes, employees also need to check whether the message came across as intended and if not, possibly switch to another medium to convey the message. As it is the case for time-spatial job crafting, these adaptation efforts do not necessarily have to occur but can in hindsight.

3.2.3.1 Consequences of Media Job Crafting

We argue that daily media job crafting positively influences daily work-life balance, daily performance, and daily work engagement as the process of reflection and selection results in a more efficient usage of communication media thereby making people more engaged and productive, and it likely contributes positively to their work-life balance on a daily level. Allen and Shoard (2005) reported in their study on mobile information technology and email overload that the usage of mobile technologies altered the nature of communication. Participants in their study reported that "messages sent become less formal and less complex than using a standard PC" (p.6); however, shorter messages ask for more clarification as such messages may be more ambiguous (Sparrow, 1998). This means that communication via mobile technologies does not always have the intended consequences due to a great deal of ambiguity resulting from for instance the lack of nonverbal cues, which means that not all information is entirely transmitted (McKenna & Bargh, 2000). Hence, with an increasing variety of different computer-mediated communication media to use, employees are thus required to make different choices as to which medium to use for which kind of message and purpose as each communication media has its own ability to transfer certain information (Daft & Lengel, 1986) and due to their different capabilities (Dennis et al., 2008). Yet, if employees reflect a priori, this process should increase their awareness of what kind of message they would like to convey and should sensitize them to the peculiarities of each communication medium, which should foster the right selection of communication media. If the communication medium fits to the message employees want to

convey, they eliminate the possibility for ambiguities and misunderstandings and potential conflicts between colleagues, of which the latter can be highly energy draining and exhausting and thus, media job crafting should make employees more engaged and productive. Since there exists no best medium to communicate over work tasks; by means of reflection, employees should be able to choose the most appropriate medium as reflection will increase their awareness of the set of capabilities of a specific medium that is needed to communicate over their work tasks. This should enhance their performance on a specific work task since the communication medium enables to accomplish work tasks in the most efficient way. A more efficient communication should also positively contribute to performance and work engagement because it enables employees to stay focused on their tasks (Rennecker & Godwin, 2005).

Moreover, we argue that a more efficient usage of communicate media may result in a more favorable work-life balance on a daily level. The right usage of communication media may positively contribute to work-life balance if employees understand the pitfalls of communication media. On the one hand it is conceivable that consciously choosing communication media can mitigate unwanted communication between employees after official office hours. Since media job crafting is likely to reduce the chances of using the wrong communication media to communicate about work tasks, the risk of additional communication needs is likely to be reduced, especially also in the presence of working in different time zones. This is likely to reduce the feeling of work spilling too much into one's home sphere, thereby contributing positively to one's work-life balance. On the other hand using the right communication medium upfront may also prevent potential conflicts and misunderstandings, which may result in a more efficient usage of time and thus frees up time and energy that can be used for instance for non-work related activities. Hence, by making conscious choices over communication media, employees should feel more in control over communication media and thus, usage of communication media may be experienced as less disturbing in general. Duxbury, Higgins, and Lee (1994) indeed found that perceived control positively contributes to work-life balance. Hence we argue that

> **Hypothesis 3:** In the context of flexible working practices, daily media job crafting is positively related to daily performance (3a), daily work engagement (3b), and daily work-life balance (3c).

3.2.4 The Combined Effects of Daily TSJC Crafting and Daily Media Job Crafting

The usage of communication media is inherent if individuals make use of flexible working practices as this is the only way to stay in contact with fellow employees. For instance, when working from home, the only way to communicate with fellow colleagues is through the usage of computer-mediated communication (e.g., through email, skype). Also if employees decide to work from the office, communicating via communication media is an integral part of their working day. Thus, individuals do not only need to make timing and location choices every day, they also need to think about which communication medium to use on a day-to-day basis. This implies that employees ideally engage in both time-spatial job crafting and media job crafting during the same day to boost their own work engagement, performance, and work-life balance. We therefore argue that the influence of both time-spatial job crafting related to tasks/private demands and media job crafting together has a stronger effect on performance, work engagement, and work-life balance than when used alone. Consequently we argue that

> **Hypothesis 4:** There is an interaction between daily media job crafting and daily time-spatial job crafting related to tasks/private demands such that the relation between daily media job crafting and performance, work engagement, and work-life balance is stronger for employees high on daily time-spatial job crafting related to tasks/private demands.

3.3 METHOD

3.3.1 Procedure and Participants

Participants were employees working in a large government agency operating in the public health and environment area in the Netherlands. We approached 150 employees whose contract allowed them to work anywhere anytime; thus participants were able to flexibly adjust working hours and work locations (e.g., from home, in the train). Participating in this study was voluntary. Daily online questionnaires were sent out over the course of two weeks after lunch time and respondents were asked to answer questions after their workday. Since part-time workers were also able to participate, we decided to send the email after lunch so that they were still be able respond to the questions. In light of being able to adjust working hours in a flexible manner, employees were also able to complete the survey in the evening (e.g., at 10 PM).

Reminders were sent out between 6 PM and 8 PM in the evening. In total, 56 participants agreed to participate in the study corresponding to a response rate of 37% (note that this response rate is in line with other studies using diary research (for a review see Bolger, Davis, & Rafaeli, 2003) resulting in 265 measurement points at the within-subject level (level 1). Participants were included if they at least filled in the daily questionnaire three times. Out of the 56 participants, 53 people filled in the general questionnaire. The sample consisted of 27 men (50.9%) and 26 women (49.1%). Their mean age was 46.09 (SD=8.6) years (two participants preferred not to disclose their age), and their mean organizational tenure was 10.8 (SD=9.2) years. Most of the participants (75%) were highly educated (Bachelor/Master degree or higher) and were married or lived together with a significant other with children (54.7 %).

3.3.2 Measures

3.3.2.1 Trait measures

All measures were administered in Dutch. Except for work engagement, all outcome variables were measured on a 5-point Likert ranging from 1= totally disagree to 5= totally agree. Items related to job crafting were also measured on a 5-point Likert scale, ranging from 1=never to 5=always.

Trait Work Engagement was measured using the Dutch shortened nine item version of the Utrecht Work Engagement Scale with the three subscales, vigor, dedication, and absorption as a composite work engagement measure (Schaufeli, Bakker, & Salanova, 2006). Example items are as follows: "When I get up in the morning I feel like going to work"; "I am enthusiastic about my job." Cronbach's alpha was .90.

Trait Performance. Performance was measured using five out of the six items of an overall performance measure developed by Staples, Hulland, and Higgins (1999). An example item is: "I believe I am an effective employee." Cronbach's alpha was .83.

Trait Work-life Balance was measured using one adapted item from Hill, Hawkins, Ferris, and Weitzman (2001). "I am able to find a good balance between my personal and work life."

Trait Time-Spatial Job Crafting related to Tasks and Private Demands and Media Job Crafting were measured with a scale that was developed for the purpose of this

study and items were based on Schippers, Den Hartog, and Koopman (2007) and Brahm (2009). Example items are as follows: "I carefully consider which work location is best suited for the task I am going to perform"; "I try to match my tasks to my working hours"; "I carefully consider which type of medium (e.g., email, skype) is best suited for the message I want to convey." Exploratory factor analysis (EFA) over the 15 items for the three job crafting scales resulted in a three-dimensional factor structure (eigenvalues greater than 1, please see Table 3.1). In total, 6 items load highly on factor 1, time-spatial job crafting related to tasks; 6 items load highly on factor 2, time-spatial job crafting related to private demands; and 3 items load highly on factor 3, media job crafting. Except for item 2 "When I notice that a work location is not suited to a specific task that I am performing, I will select a different work location or task" all other items did not display cross-loadings. Item 2 loads both on factor 1 and factor 3. Cronbach's alpha for media job crafting was .86; Cronbach' s alpha for time-spatial job crafting related to tasks was .93 and Cronbach' s alpha for time-spatial job crafting related to private demands was .94.

Due to the nature of diary studies, sample sizes are low causing problems in achieving good model fit when conducting confirmatory factor analysis (Byrne, 2010; Kenny, 2015). To confirm the validity of the scale, data collected in 2016 for a different cross-sectional study showed that media job crafting and spatial job crafting related to tasks showed good fit to the data. Confirmatory factor analyses (CFA) conducted in AMOS (Arbuckle, 2013) confirmed the two-dimensional structure and resulted in a good fit ($\chi 2 = 17.590$, $p = .025$, d.f. = 8, $\chi 2/df = 2.199$ comparative fit index [CFI] = .993, Tucker Lewis Index [TLI] = .986, goodness-of-fit index [GFI] = .990, standardized root mean square residual [SRMR] = .024). However, due to the scope of the study in 2016, only items related to spatial job crafting related to tasks and media job crafting were collected. Thus, factorial validity for time-spatial job crafting related to tasks and time-spatial job crafting related to private demands is not established.[3]

[3] Both scales proved to be reliable (Cronbach's alpha for media job crafting: .80; Cronbach's alpha for spatial job crafting: .85).

Item	Factor 1	Factor 2	Factor 3
I carefully consider which work location is best suited to the task I am going to perform	.35	**.77**	.32
When I notice that a work location is not suited to a specific task that I am performing, I will select a different work location or task	.36	**.51**	**.56**
I try to match my tasks to my work location	.34	**.73**	.39
I carefully consider which work location is best suited to my private demands	**.88**	.21	.19
When I notice that a work location is not suited to my private demands, I will select a different work location	**.89**	.17	.16
I try to match private demands to my work location	**.85**	.19	.19
I carefully consider which working hours are best suited to the task I am going to perform	.14	**.93**	.11
When I notice that working hours are not suited to a specific task that I am performing, I will select different working hours or a different task	.41	**.78**	.20
I try to match my tasks to my working hours	.32	**.74**	.24
I carefully consider which working hours are best suited to my private demands	**.83**	.33	-.06
I try to match private demands to my working hours	**.75**	.30	.11
Whenever I notice that my private and work demands do not fit to each other, I try to find a compromise	**.85**	.28	-.05
I carefully consider which medium is best suited to what type of message	.09	.22	**.84**
When I notice that a message does not come across via one medium (for example e-mail), then I will switch to a more interactive medium	.01	.09	**.80**
I try to match the type of message with the medium	.09	.31	**.89**

Table 3.1. Time-spatial Job Crafting and Media job Crafting Items and their Respective Factor Loadings (N =53)

3.3.2.2 State Measures

In order to keep daily surveys as short as possible to minimize attrition, we followed general recommendations and procedures in diary research and used shortened scales of the full

validated scales (Ohly, Sonnentag, Niessen, & Zapf, 2010). Items were selected by means of face validity and factor analytic findings from previous research (Ohly et al., 2010).[4] Except for work engagement, all outcome variables were measured on a 5-point Likert ranging from 1= totally disagree to 5= totally agree. Items related to job crafting were also measured on a 5-point Likert scale, ranging from 1=never to 5=always.

Daily Work Engagement was measured on a 7-point Likert scale ranging from 1= never to 7= with the day-level version of the Utrecht Work Engagement Scale (Breevaart, Bakker, Demerouti, & Hetland, 2012). We used six out of the nine-items with the highest factor loadings from previous research to analyze our data and used work engagement as one composite construct. Example items are as follows: "Today I was enthusiastic about my job"; "Today, I was immersed in my work." Cronbach's alpha across the five time points ranged from .93 to .96.

Daily Performance was measured using three out of the six items of an overall performance measure developed by Staples, Hulland, and Higgins (1999). Items were adapted to the day level. An example item is: "Today, I was a productive employee." Cronbach's alpha across the five time points ranged from .80 to .94.

Daily Work-Life Balance was measured using a single item measured adapted from Hill et al. (2001). "Today I was able to find a good balance between my private and work life."

Daily Time-Spatial Job Crafting related to Tasks and Private Demands and Media Job Crafting were measured with the state version of the scale that was developed for the present study and partially validated with data from 2016. Example items are as follows: "Today, I carefully considered which work location was best suited for the task I was going to perform"; "Today, I tried to match my tasks to my working hours"; "Today, I carefully considered which type of medium (e.g., email, skype) was best suited for the message I wanted to convey." The internal consistency reliability (α) for media job crafting ranged from .72 to .85 for each of the five time points. Cronbach's alpha across the five time points for time-spatial

[4] While (Ohly et al., 2010, p. 86) acknowledge that "some psychological phenomena are qualitatively different when assessed on a daily basis compared to a longer period of time" such as job satisfaction (see Fisher, 2000) we do not see any difference for the outcome variables used in this study.

job crafting related to tasks ranged from .80 to .94 and for time-spatial job crafting related to private demands from .94 to .97.

3.3.3 Data Analysis

Our data consists of two levels: Days (level 1, within-persons; n = 265 observations) are nested within persons (level 2, between-person; n = 56 participants) and thus we performed multilevel analyses as daily observations are nested (Hox, 2002) using SPSS to analyze our data. In order to guarantee robust estimations of fixed effects, Maas and Hox (2005) suggested that a sample ideally consists of at least of 30 at the highest level of analysis; our sample size (n=56) adheres to this rule and thus, multilevel modeling is warranted. Variables measured at level 2 were demographics and general levels of work engagement, performance, work-life balance, time-spatial job crafting, and media job crafting. Variables measured at level 1 included daily work engagement, performance, work-life balance, time-spatial job crafting, and media job crafting. We grand mean centered person-level control variables and day-level predictor variables were centered around the group mean. Outcome variables remained uncentered.

3.4 RESULTS

3.4.1 Descriptive Statistics

Correlations between variables were calculated using the averaged scores over the five days for the day-level variables (Demerouti, Bakker, & Halbesleben, 2015). These correlations indicated that media job crafting is positively related to performance (r =.44, p<.01) and task-related job crafting showed a positive relation with work engagement (r =.27, p<.05) and performance (r =.29, p<.05). Table 3.2 presents the means, standard deviations, and correlations among the study variables.

3.4.2 Hypotheses Testing

We first calculated the intra-class correlation to estimate how much of the variance is attributed to level 1 and level 2 justifying multilevel analysis (Hox, 2002). Results revealed that 76% of variance in work engagement, 45% variance in performance, and 42% in work-life balance could be attributed to between-person variation. Thus, there is significant variance left,

which can be explained by within-person fluctuations, supporting the usage of multilevel analysis. Results of multilevel modeling for the three outcome variables can be seen in Tables 3.3-3.5. For all outcome variables, in the null model, we entered the intercept as the only predictor. In Model 1, age, gender, education, organizational tenure, and household situation were entered as person-level control variables. In Model 2, we included the main effects of daily time-spatial job crafting related to tasks and private demands, and daily media job crafting. Finally, in model 3, the interaction terms of time-spatial job crafting related to tasks/private demands and media job crafting were entered for the outcome variables.

Daily Performance. Hypothesis 1a-3a predicted that daily time-spatial job crafting related to tasks, daily time-spatial job crafting related to private demands, and daily media job crafting were positively related to daily performance. As can be taken from Table 3.3, model 3, we found support for hypothesis 3a. Daily media job crafting is significantly related to daily performance (γ=.12, $p<.05$), however, daily time-spatial job crafting related to private demands (γ=-.05, p=.39) and tasks (γ=.03, p=.63) did not significantly predict daily performance, rejecting hypothesis 1a and 2a. Hypothesis 4 predicted interaction effects between daily media job crafting and daily time-spatial job crafting related to tasks/private demands on daily performance. A significant interaction effect between daily media job crafting and daily time-spatial job crafting related to private demands (γ=-.59, $p<.01$) and between daily media job crafting and daily time-spatial job crafting related to tasks (γ=.25, $p<.01$) was found, partially supporting hypothesis 4. Contrary to what we had expected, Figure 3.1 shows that a low level of daily media job crafting combined with a high level of daily time-spatial job crafting related to private demands results in higher daily performance; however, if the level of daily media job crafting is high, a low level of daily time-spatial job crafting related to private demands leads to higher daily performance.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	47.9	8.7	1.00										
2. Gender	0.48	.50	.15	1.00									
3. Education	4.80	1.16	.03	-.12	1.00								
4. Household situation	2.15	.98	-.10	.20	-.09	1.00							
5. Organizational Tenure	11.0	9.31	.41**	.06	.02	-.13	1.00						
Daily Level													
6. Work Engagement	3.52	.90	.12	-.09	-.19	.14	-.03	1.00					
7. Performance	4.00	.67	.09	.03	-.39	.02	.03	.40**	1.00				
8. Work-Life Balance	6.51	1.41	-.03	.32*	-.14	.04	.28*	.30*	.23	1.00			
9. TSJC (Tasks)	2.84	1.15	-.00	.16	-.02	.08	.05	.27*	.29*	.14	1.00		
10. TSJC (Private Demands)	2.21	1.25	-48**	.18**	.15	.13	-.15	.01	.10	.15	.42**	1.00	
11. Media Job Crafting	3.24	1.18	-.09	.27	. 06	.18	.11	.20	.44**	.03	.52**	.41**	1.00

**p <.05 ** p <.01*

Table 3.2. Correlations, Means, and Standard Deviations

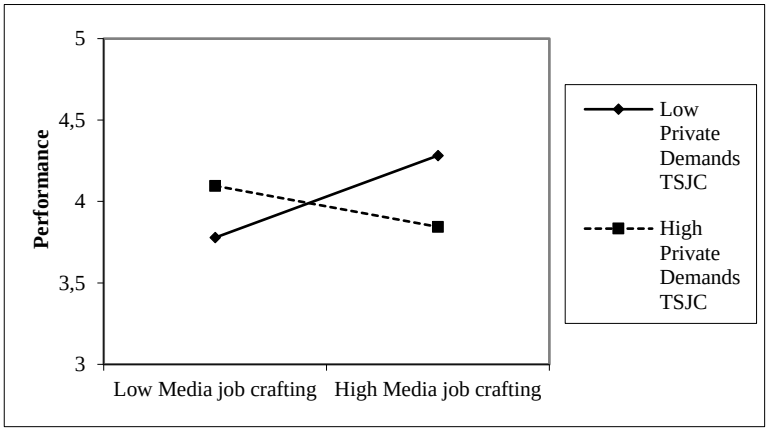


Figure 3.1. Interaction between Media Job Crafting and Time-Spatial Job Crafting related to Private Demands on Performance

For the interaction effect between daily media job crafting and daily time-spatial job crafting related to tasks we see a different picture. The results suggest that a low level of daily media job crafting cannot be compensated for with a high level of daily time-spatial job crafting as daily performance is highest if employees are low on both (please refer to Figure 3.2). Importantly, if people are high on daily media job crafting, they can reach highest levels of daily performance when they also engage in daily time-spatial job crafting related to tasks.

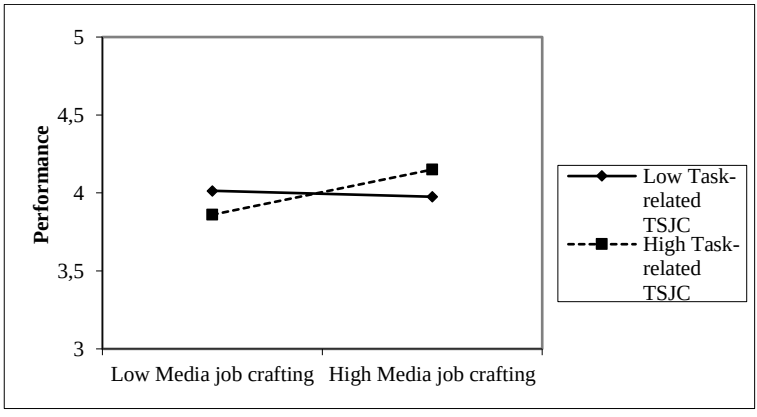


Figure 3.2. Interaction between Media Job crafting and Time-Spatial Job Crafting related to Tasks on Performance

Performance

	Null Model			Model 1			Model 2			Model 3		
	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*
Intercept	3.989	.067	59.819**	3.990	.068	58.890**	3.988	.069	58.077**	4.006	.064	62.647**
Years				.131	.158	.830	.134	.161	.833	.108	.147	.730
Age				-.051	.149	-.339	-.047	.152	-.309	-.137	.140	-.978
Gender				-.214	.138	-1.547	-.211	.140	-1.510	-.197	.129	-1.528
Education				-.042	.060	-.698	-.041	.061	-.668	-.040	.056	-.716
Household situation				.094	.072	1.304	.097	.073	1.325	.051	.067	.760
Time-spatial job crafting (Tasks)							.053	.065	.810	.030	.063	.477
Time-spatial job crafting (Private Demands)							-.041	.056	-.741	-.045	.053	-.854
Media job Crafting							.112	.050	2.219*	.119	.048	2.487*
MJCXTSJC-PD										-.590	.100	-5.911*
MJCXTSJC-T										.252	.093	2.720*
TSJC-TXTSJC-PD										.050	.076	.644
-2*log			480.186			461.879			455.441			421.590
Diff-2*log						18.307**			6.438			33.851**
Df						5			3			3

**p <.05 ** p <.01*

Table 3.3. Multilevel Estimates for Performance as Dependent Variable

Daily Work Engagement. Hypothesis 1b-3b predicted that daily time-spatial job crafting related to tasks, daily time-spatial job crafting related to private demands, and daily media job crafting were positively related to daily work engagement. As can be seen in Table 3.4, model 3, we did not find support for these hypotheses. While daily time-spatial job crafting related to tasks is significantly related to daily work engagement (γ=.15, p<.05) in model 2; in model 3, this effect proves to be only marginally significant (γ=.14, p=.066). Both daily time-spatial job crafting related to private demands (γ=.03, p=.65) and daily media job crafting (γ=.04, p=.51) did not significantly predict daily work engagement. Hypothesis 4 predicted interaction effects between daily media job crafting and daily time-spatial job crafting related to tasks/private demands on daily work engagement. From the three hypothesized interaction effects, we found a significant interaction effect between daily media job crafting and daily time-spatial job crafting related to private demands (γ=-.30, p<.05), partially supporting hypothesis 4. Contrary to our expectations but similar to the findings for performance, a low level of media job crafting combined with a high level of daily time-spatial job crafting related to private demands resulted in *higher* daily work engagement; however if the level of daily media job crafting is high, a low level of daily time-spatial job crafting related to private demands leads to higher daily work engagement (please refer to Figure 3.3).

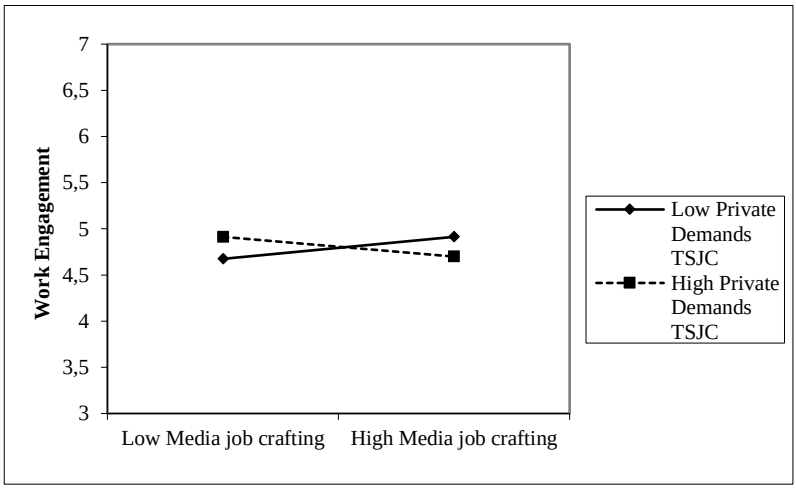


Figure 3.3. Interaction between Media Job Crafting and Time-Spatial Job Crafting related to Private Demands on Work Engagement

Work Engagement

	Null Model			Model 1			Model 2			Model 3		
	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*
Intercept	4.817	.139	34.616**	4.846	.139	34.836**	4.842	.140	34.605**	4.854	.136	35.677**
Years				-.203	.325	-.623	-.194	.327	-.592	-.206	.316	-.651
Age				.213	.307	.692	.212	.309	.687	.156	.300	.520
Gender				.041	.266	.154	.001	.268	.003	-.036	.263	-.138
Education				-.032	.124	-.260	-.031	.124	-.250	-.033	.120	-.275
Household situation				.038	.147	.257	.048	.148	.321	.026	.144	.183
Time-spatial job crafting (Tasks)							.152	.075	2.024*	.141	.076	1.851
Time-spatial job crafting (Private Demands)							.035	.064	.538	.029	.064	.457
Media job Crafting							.036	.058	.613	.038	.058	.662
MJCXTSJC-PD										-.296	.126	-2.342*
MJCXTSJC-T										.089	.116	.765
TSJC-TXTSJC-PD										.046	.095	.486
-2*log			608.891			596.982			589.557			583.774
Diff-2*log						11.909**			7.425			5.783 (13.208*)
Df						5			3			3 (6)

**p <.05 ** p <.01 (Values in brackets are based on differences between model 1 and model 3)*

Table 3.4. Multilevel Estimates for Work Engagement as Dependent Variable

Daily Work-Life Balance. Hypothesis 1c-3c predicted that daily time-spatial job crafting related to tasks, daily time-spatial job crafting related to private demands, and daily media job crafting was positively related to daily work-life balance. As can be taken from Table 3.5, model 3, we found support for Hypothesis 3c, daily media job crafting is significantly related to daily work-life balance (γ=.18, p<.01); however, daily time-spatial job crafting related to private demands (γ=.07, p=.32) and daily time-spatial job crafting related to tasks (γ=.14, p=.10) did not significantly predict daily work-life balance, thereby rejecting Hypothesis 1c and Hypothesis 2c. Hypothesis 4 predicted interaction effects between daily media job crafting and daily time-spatial job crafting related to tasks/private demands on daily work-life balance. From the three hypothesized interaction effects, we found a significant interaction effect between daily media job crafting and daily time-spatial job crafting related to private demands (γ=-.28, p<.01), thus partially supporting hypothesis 4. Similar to the findings for daily work engagement and daily performance, Figure 3.4 shows that a low level of daily media job crafting paired with a high level of daily time-spatial job crafting related to private demands results in higher daily work-life balance; however, if the level of daily media job crafting is high, a low level of time-spatial job crafting related to private demands leads to higher daily work-life balance.

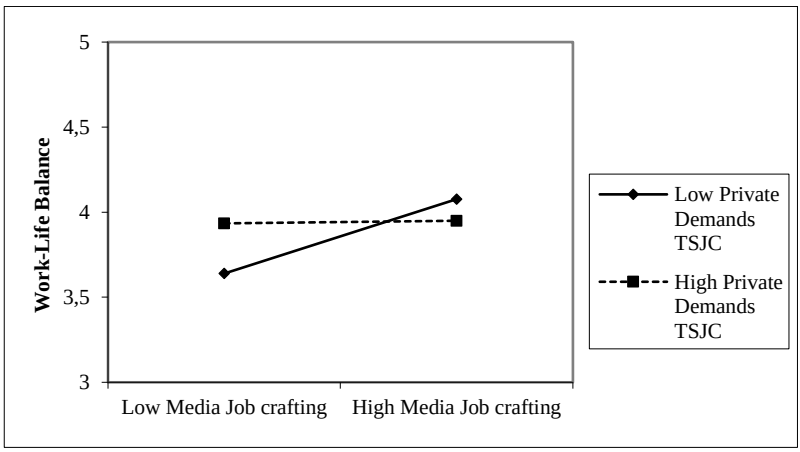


Figure 3.4. Interaction between Media Job Crafting and Time-Spatial Job Crafting related to Private Demands on Work-Life Balance

Work-Life Balance

	Null Model			Model 1			Model 2			Model 3		
	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*	Estimate	SE	*t*
Intercept	3.908	.082	47.646**	3.909	.081	48.286**	3.904	.082	47.673**	3.919**	.080	48.836**
Years				.151	.189	.798	.158	.191	.824	.142	.185	.771
Age				-.187	.179	-1.046	-.180	.181	-.995	-.230	.175	-1.311
Gender				.281	.166	1.700	.271	.167	1.622	.268	.162	1.657
Education				-.021	.072	-.291	-.018	.072	-.246	-.018	.070	-.262
Household situation				-.075	.086	-.871	-.066	.087	-.761	-.088	.085	-1.046
Time-spatial job crafting (Tasks)							.142	.080	1.774	.137	.082	1.676
Time-spatial job crafting (Private Demands)							.071	.069	1.041	.068	.069	.993
Media job Crafting							.172	.062	2.766**	.176	.062	2.842*
MJCXTSJC-PD										-.279	.120	-2.156*
MJCXTSJC-T										.050	.129	.418
TSJC-TXTSJC-PD										.025	.099	.254
-2*log			592.364			577.002			559.008			553.508
Diff-2*log						15.362**			17.994**			5.500 (23.494**)
Df						5			3			3 (6)

**p <.05 ** p <.01 (Values in brackets are based on differences between model 1 and model 3)*

Table 3.5. Multilevel Estimates for Work-Life Balance as Dependent Variable

3.5 DISCUSSION

Despite the inconclusive evidence regarding the benefits of flexible working practices for performance, work engagement, and work-life balance, prior research remained relatively mute about how employees can exploit the benefits of flexible working practices. In the present study, we followed employees during five workdays to see whether media job crafting and time-spatial job crafting can help employees to reap the benefits when working flexibly on a day-to-day basis. Our study indeed has shown that employees are able to reap the benefits for performance and work-life balance if they engage in daily media job crafting. Moreover, joint effects of daily media job crafting and daily time-spatial job crafting related to private demands where found for all outcome variables. In the following section, we discuss the most important theoretical and practical contributions of our study.

3.5.1 Theoretical Implications

With our findings, we develop and extend job crafting theory (Wrzesniewski & Dutton, 2001). In particular, we predicted that daily time-spatial job crafting both related to tasks and private demands would make people more engaged, more productive, and would result in a better work-life balance on a daily level. However, our results showed only a marginally positive relationship between time-spatial job crating related to tasks and daily work engagement and daily work-life balance; the relation with performance was substantially above the cutoff point of .05. Hence, more research is needed to shed light on these relations. These result, however, are quite surprising because we assumed that time-spatial job crafting related to tasks positively influences performance, work engagement, and work-life balance as employees carry out their task(s) in line with personal preferences for certain work locations and working hours. Yet, it might be the case that performance and work engagement effects of time-spatial job crafting related to tasks may depend on the task(s) employees carried out. It is likely that for instance for some tasks, (e.g., writing an email), it does not really matter to employees when and where they carry out some tasks as these can be fulfilled from different work locations and during various working hours. It might also be the case that the relation between time-spatial job crafting related to tasks and engagement, performance and work-life balance is more complex. Employees that participated in that study did not have any prior

experience in time-spatial job crafting related to tasks and thus in finding the best fit. It might be the case that effects may not be readily seen as it takes some time until 'practice makes perfect'. Consequently, it is likely that the proposed benefits of time-spatial job crafting will be less strong on outcome variables in the short run and increase in the long term (cf. Schippers, Homan, & Van Knippenberg, 2013).

Daily media job crafting has shown to have a positive relation with performance and work-life balance but not with work engagement. It seems that people who carefully think about the message they want to bring over and choose a communication medium accordingly, perform better and have a better work-life balance on a day-to day basis. Yet, it does not make them more enthusiastic and dedicated about their work. While performance and work-life balance may increase because employees feel that it makes work processes more efficient increasing perceived performance of a work task and because it may result in excess time for private demands, it does not necessarily result in heightened enthusiasm, engrossment, and dedication over work. It might be that employees see media job crafting as a helpful tool to get work done more efficiently but they do not regard media job crafting as something which they derive energy and enthusiasm from. Communication media are needed to carry out one's work when working away from the office, hence, it is a requirement for carrying out work tasks. If communication about work tasks over media is done well (which media job crafting fosters), work tasks can be accomplished with less effort, resulting in greater performance levels. However it seems that this is less likely to affect engagement levels since it may not make work as such more enjoyable.

Surprisingly, for time-spatial job crafting related to private demands the hypothesized links were not supported altogether. Even though time-spatial job crafting related to private demands did not individually significantly predict any of the outcome variables, we did find that in combination with media job crafting it showed a consistent significant relationship with daily work engagement, work-life balance, and performance. For all of these three outcome variables, the pattern of results are the same: If employees are low in media job crafting, they experience more engagement, performance, and work-life balance if they are high in time-spatial job crafting related to private demands. However, if they are already high in media job crafting, a high level of time-spatial job crafting related to private demands does not lead to higher engagement, performance or work-life balance. Thus, it seems that time-spatial job crafting related to private demands only makes a difference if media job crafting is low.

This is puzzling as we initially assumed high levels of both would lead to higher outcomes in general. It may be that this result is situation or location-specific; so for instance if employees work from the office, it is likely that a lower usage of media job crafting is needed than if they work from home as they possibly need to make use of a greater variety of communication media. Another explanation might point into the direction of exhaustion. In Chapter 2 we proposed that time-spatial job crafting as such may potentially be an activity strenuous in itself. The combination of different types of job crafting behavior, in particular media job crafting and time-spatial job crafting related to private demands may cost too much effort for both to flourish at the same time. This may be due to the fact that both types of job crafting behavior are quite different from each other. While time-spatial job crafting related to private demands involves reflection about the private domain, media job crafting involves reflection about communication media usage. It might be that both types of job crafting behavior occupy too many cognitive resources at the same time and thus, one needs to make a trade-off between the two. Our results have shown that this may be true for media job crafting and job crafting related to private demands and performance but not for task-related time-spatial job crafting. It is likely that both media job crafting and task-related time-spatial job crafting are more similar to each other as they both relate to the task and thus work domain.

Taken together, our findings contribute to the literature in the following ways: First, our results add and extend the emerging literature on job crafting (Demerouti & Bakker, 2014; Wrzesniewski & Dutton, 2001). In particular, this chapter highlighted the importance of bottom-up approaches to work design in the context of flexible working practices. By testing and introducing time-spatial job crafting and media job crafting, we extend job crafting to the time and spatial aspects of work and to communication media usage and integrate it with media literature (Dennis et al., 2008). Second, our results also add to the literature on workplace flexibility (e.g., Hill et al., 2008) and work-life balance (e.g., Hill et al., 2001). We demonstrated that employees can in particular use daily media job crafting as a tool to better handle flexible working practices on a day-to-day basis and to retain their work-life balance. In light of the equivocal outcomes of flexible working practices for work outcomes and work-life balance, by introducing time-spatial job crafting and media job crafting, we unraveled how employees themselves can make the most of flexible working practices.

3.5.2 Practical Implications

The present study underscores the importance of bottom-up approaches of work design in the context of flexible working practices, which should be of particular interest to managers and employees themselves. Since employees often struggle as to use the given flexible working practices in the most efficient way, our findings demonstrate employees a way how to better handle flexible working practices. Particularly media job crafting can be used by employees as a tool to increase their own work-life balance and performance on a day-to-day basis. Hence, it is important for organizations that employees engage in media job crafting. On the one hand this entails that organizations create awareness for this type of job crafting, which can be accomplished through organizational workshops in which employees learn about the usefulness of media job crafting. On the other hand this may also ask for continuous training and coaching by managers, who ideally can act as role models in this regard, so that employees are able to engage more readily in media job crafting. However, this also implies that organizations are directed to develop practices that enables mangers to manage employee media job crafting on a daily basis. For instance, this may involve regular feedback sessions about making use of media job crafting in which employees and managers also talk about potential problems encountered. This seems to be important as our results further have shown that when employees also engage in time-spatial job crafting related to private demands, a high level of media job crafting is less needed to perform well, be engaged, and to have a good work-life balance. Overall, organizations are advised to make media job crafting an engrained organizational practice that potentially becomes more of a routinized behavior in the long-term (Schippers et al., 2014).

3.5.3 Limitations and Avenues for Future Research

A first limitation to our study represents the fact that the temporal order of the study variables could not be established within our design (Ohly et al., 2010). All daily questions were assessed at the end of the working day. Therefore, it is important that future research establishes the temporal order by assessing the variables at different points in time during the day. Second, we only were able to use self-reports in this study, which is adequate for several of our study variables as they are best rated by employees themselves. However, future research is encouraged to obtain more objective performance measures. Another limitation present in this

research is also the relatively low sample size. Even though it still adheres to Maas and Hox's (2005) requirement, since we only made inferences at the within-person level, a larger number of days is needed in future research (Ohly et al., 2010). Related to the small sample size is also the issue related to scale validation of our time-spatial job crafting measure, as reported in the method section. We were able to validate the spatial job crafting and media job crafting measure, but could not reliably show factorial validity of time-spatial job crafting related to tasks and time-spatial job crafting related to private demands, due to the small sample size. This may have biased our results although we were able to show factorial validity for parts of the scale in a larger sample size. Finally, due to the study design, we were not able to assess what kind of task employees performed, whether they had any information about the work location of co-workers, and whether they had any prior experience with job crafting. Future research should take into the role of the task employees executed as time-spatial job crafting related to tasks may depend on the task(s) employees carried out. It is likely that for instance for some tasks, (e.g., writing an email), it does not really matter to employees when and where they carry out their tasks, as these can be fulfilled from different work environments. Equally important in particular for media job crafting may also be information about the location of co-workers. The right media job crafting decision may partly be contingent on the location of co-workers and hence, future research is advised to control for this. Future research could also investigate the long-term consequences of time-spatial job crafting and media job crafting as it is likely that the proposed benefits of time-spatial job crafting will be less strong on performance in the short run and increase in the long term.

3.6 CONCLUSION

Prior research about the effects of flexible working practices on well-being, performance, and, work-life balance has demonstrated opposing effects; yet remained relatively mute about how employees can exploit the benefits of flexible working practices. We proposed that both daily media job crafting and daily time-spatial job crafting as two context-dependent types of job crafting can be seen as a tool to achieve this. Our evidence suggests that in the context of flexible working practices, employees should engage in daily media job crafting to boost their own daily performance and work-life balance.

Chapter 4

The Need for Routines Explains Why Employees Do Not Adopt Activity-Based Areas[5]

Abstract

Our research examines how knowledge workers perceive and make sense of the move to activity-based areas in an office redesign intervention and the implications of such a move for performance and health outcomes. We found – using both a quasi-experimental design ($n_{intervention\ group} = 112$ employees; $n_{control\ group} = 112$ employees) and a qualitative and quantitative process evaluation – that knowledge workers did not make use of the increased flexibility provided by activity-based areas, and subsequently performance and health did not increase as was intended by the organization implementing the office redesign. Choosing not to change workplaces was on the one hand driven by prevailing mental models related to the intervention content (e.g., personal preferences regarding different workplaces, perceived benefits of different workplaces) and on the other hand due to the relative negligence of important implementation factors such as employee involvement and the role of middle managers in this intervention. We identified not making use of the increase in flexibility as a means to adhere to employee's need for routine-seeking.

[5] Parts of this chapter have been presented at the following peer-reviewed conferences:
Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2016). A process evaluation of an office redesign intervention aimed to improve work engagement. 4th International Well-being at Work Conference, May 29-June 1, 2016, Amsterdam.
Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2015). Work engagement and office redesign: A process and effect evaluation of an office redesign intervention. Annual meeting of the Dutch association for Work and Organizational Psychology (WAOP, 2015), November 27, 2015, Amsterdam.

4.1 INTRODUCTION

The introduction of Information and Communication Technology (ICT) has revolutionized the way knowledge organizations work. Next to enabling flexibility in terms of when and where to carry out one's work, ICT also facilitated greater spatial flexibility inside the office manifesting itself as a more flexible usage of office space. Traditional offices with assigned workplaces to carry out all work tasks gave way for more dynamic and innovative offices in which employees collaborate through ICT (Becker & Steele, 1995; Vos & van der Voordt, 2001). An increasing variety and complexity of tasks also called for a more optimal usage of office space (Vischer, 2007). So-called activity-based areas are characterized by a diverse portfolio of workplaces that are tailored to the execution of distinct work tasks, saving not only on office space -and costs but also increasing the flexible use of the office (De Croon et al., 2005; HNW Barometer, 2013). Places for focus work, team work, reading tasks or informal meeting rooms provide the opportunity to select among the place needed to accomplish a certain task (Zinser, 2004). In activity-based areas, employees no longer have an assigned workplace but make use of the desk-sharing principle. Such a redesign of the office is considered to be one of the five top components of new ways of working in the Netherlands (HNW Barometer, 2013) and an increasing number of organizations implement this office concept (e.g., Accenture Germany, Deloitte Netherlands, Microsoft Netherlands).

Research investigating the effects of office redesign and work outcomes has produced equivocal findings. Some studies find that office redesign contributes to positive outcomes (e.g., increases in communication, Allen & Gerstberger, 1973; increases in performance, Sundstrom, Burt, & Kamp, 1980) whereas others find negative outcomes (e.g., decreases in health, Fried, 1990; incresaed distractions, Kaarlela-Tuomaala, Helenius, Keskinen, & Hongisto, 2009; decreased communication, Zalesny & Farace, 1987) or even null effects have been observed (e.g., for performance, O'Neill, 1994; for feedback, Oldham & Brass, 1979) (for a review see De Croon et al., 2005).

Our study of knowledge workers who moved to activity-based areas similarly finds that such an office redesign did not change performance and health outcomes. Although activity-based areas offer employees greater flexibility over where to carry out work tasks inside the office, we propose that employees often do not make use of this flexibility and choose to keep on performing their work tasks at the same workplace leaving performance and health outcomes unaffected. In the current chapter, we aim to shed light on the underlying process of

the office redesign intervention (activity-based areas). We will do this by exploring prevailing mental models (e.g., personal preferences regarding workplaces, perceived benefits of different workplaces) and factors pertaining to the implementation strategy (e.g., employee involvement, role of the middle manager).

The paucity of clarity regarding the effectiveness of office redesign interventions for health and performance outcomes presents a major obstacle for organizations due to a great number of resources being invested (cf. Biron, Karanika-Murray, & Cooper, 2012). An important cause of success or failure of interventions in general is the way interventions are implemented and employee's mental models with respect to the intervention content, and various implementation factors have been found to play a role here (Nielsen, Taris, & Cox, 2010). Important process-related factors pertaining to the implementation are the involvement or non-involvement of employees and management support; process-factors related to mental models are for instance employee's perception of the intervention activities (Biron et al., 2012). However, prior studies on office redesign have failed to explore those underlying mechanisms as to why these interventions led to beneficial or adverse consequences for performance or health leaving important questions regarding the (in)effectiveness of innovative office concepts unanswered.

Therefore, our aim of this chapter is to unravel the underlying mechanisms by mapping out the role of hitherto overlooked implementation factors and employees' mental models that accompany such an intervention in relation to performance and health outcomes. To this end, we use both an *effect* and *process* evaluation approach making use of Nielsen and Randall's (2013) process model for evaluating interventions. By means of a quasi-experimental study, in the effect analysis, we test the influence of activity-based areas on performance and health-related outcomes; quantitative and qualitative process analysis may explain the results of the effect evaluation shedding light on possible reasons. While our finding that activity-based areas did not change performance and health outcome is consistent with past work on office redesign, this study moves beyond this result by offering insights into success/hindrance factors of this particular office redesign intervention and explains under which conditions it may not lead to improvements in health and performance. In particular, we identify how knowledge workers rationalize not making use of the increase in flexibility, manifesting this outcome not as an encroachment but as a means to adhere to their need for routine-seeking. We thereby add to the literature on organizational routines (Becker, Lazaric, Nelson, & Winter, 2005), office

redesign (De Croon et al., 2005) and process evaluations (Nielsen & Randall, 2013). By illuminating success and hindrance factors for the implementation of office redesign interventions, our findings also have important implications for practice.

In the following, we firstly briefly review extant literature on office redesign followed by an account of the importance of process evaluations. Second, we introduce our research methods and explain the data collection procedure; third we present our findings from both the effect and process evaluation and in the final part, we discuss our findings in the context of theory on organizational routines.

4.2 THEORY

4.2.1 Literature on Office Redesign

Office redesign can take on many forms with changes in terms of office layout (workplace openness and distance between work stations), office use (fixed workplace vs. desk sharing) and office location (telework office vs. conventional office) resulting in an array of different office concepts (De Croon et al., 2005). Activity-based areas represent a particular and relatively recent type of such an office concept. While office occupancy rates often decrease and result in unused office space when allowing employees to work anywhere but the office, a more flexible usage of offices saves on office space -and costs and provides space for up to an additional 40 percent of the workforce (De Croon et al., 2005; Elsbach, 2003). An increasing variety and complexity of tasks also calls for a more intelligent usage of the office space (Vischer, 2007). In order to support the execution of work-specific tasks, knowledge work organizations increasingly introduce activity-based areas. Such innovative offices can be described along two dimensions, namely the office layout and office use (c.f. De Croon et al., 2005). The office layout in activity based areas varies from closed to open offices and key features are the different workplaces for the execution of specific tasks. Places for focus work, team work, reading tasks or informal meeting rooms provide the opportunity to select among the place needed to accomplish a certain task (Zinser, 2004). In activity-based areas, employees also no longer have an assigned workplace but make use of the desk-sharing principle. Ideally, employees should be able to make use of the workplace that is best suited to the task they are going to carry out. However, as there is only a limited availability of each workplace, choosing a workplace is frequently based on the first come first serve principle.

Research on the effects of such office redesign interventions is highly conflicting and inconsistent (McElroy & Morrow, 2010) investigating a variety of different office concepts and their influence on work outcomes such as health and performance. In their review on office concepts, De Croon et al. (2005) concluded that office concepts have the potential to bring about positive, negative, or null effects for health and performance partly through altering job demands such as cognitive load and job resources such as social support or communication. For instance, while some studies in their review demonstrated that workplace openness increases communication (e.g., Allen & Gerstberger, 1973); there are other studies that showed a negative relation (Zalesny & Farace, 1987) or even no relation with communication (Sundstrom, Herbert, & Brown, 1992). Accompanied by mixed results for communication, De Croon and colleagues also reviewed contradicting findings for interpersonal relations and open offices. A negative relation with interpersonal relations has been found in a study conducted by Oldham and Rotchford (1983) as well as a decrease in supervisor feedback but no changes in co-worker feedback have been found by Oldham and Brass (1979). While Banbury and Berry (2005) reported that due to an increased level of noise in open office spaces, task performance significantly decreased, Sundstrom et al. (1980) found a positive correlation between private offices and performance. A decrease in performance and higher physical stress was also found in a longitudinal field study investigating the move to open offices (Brennan et al., 2002). A similar and more recent study conducted by Danielsson and Bodin (2008) differentiated between the use of seven offices types, such as closed cell offices for concentration work; shared offices or different open offices. In their examination, the authors were able to show the various effects of office type on health with the best subjective health and job satisfaction reported by employees working in cell and flex offices.

The previous discussion highlights the contradictions that revolve around office redesign in the extant literature and until now, there exists insufficient evidence as to the effect on health and performance (De Croon et al., 2005).

4.2.2 Exploring the Importance of Process Evaluations in Office Redesign Interventions

This paucity of inconclusive evidence corresponds to a present dilemma in intervention research that organizational-level interventions are often not implemented or do not result in the intended outcomes (Biron et al., 2012). By solely concentrating on the effects

of the change process or the intervention, valuable information about the why and how of the change process is lost (Arends et al., 2014) making it hard to explain (contradicting) findings. However, whether an intervention succeeded or failed may be due to important process-factors related to the intervention (Nielsen et al., 2010). Process factors are defined as "individual, collective and management perceptions and actions in implementing any intervention and their influence on the overall result of the intervention" (NytrØ, Saksvik, Mikkelsen, Bohle, & Quinlan, 2000, p. 214). Thus, process factors can be used to shed light on the outcomes of interventions by investigating facilitating and hindering factors (Goldenhar, Lamontagne, Katz, Heaney, & Landsbergis, 2001).

To account for the importance of process-factors in organizational health and well-being intervention research, recently, Nielsen and Randall (2013) introduced a three-level process evaluation model which includes the intervention context, the intervention design and implementation, and respondent's mental models. Drawing from Weick's sensemaking concept (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005) in which individuals use mental models to make sense of the world, in an intervention context, "mental models determine how participants react to the intervention and its activities (…)" (Nielsen & Randall, 2013, p. 607).

In exploring the results of the effect evaluation, we will look in particular at the implementation strategy and mental models. Nielsen and colleagues suggest that a consideration of those psychological and organizational mechanisms may shed light on the hindrance and facilitation factors of the intervention. For instance, when it comes to the implementation strategy, Nielsen and Randall (2012) demonstrated the importance of employee participation in the intervention process within a teamwork implementation study. They have shown that employee participation and perceiving changes in work procedures were significantly related to autonomy, social support, and well-being after the intervention. In a similar process evaluation study, Nielsen and Randall (2009) demonstrated the vital role of middle managers in the implementation process in a longitudinal intervention study in a Danish governmental organization. They have shown that when employees perceive that their middle managers play an active role in implementing changes, employees showed higher job satisfaction and well-being. This presents first evidence that implementation process factors such as employee participation and middle manager support may also be key variables in determining the success or failure of office redesign interventions. While process evaluations are quite popular and heavily used in other research disciplines such as public health or participatory ergonomics, (e.g.,

Steckler & Linnan, 2002), Nielsen and Randal's model specifically targets interventions in the occupational well-being and health domain.

With the current study, we aim to shed light on hitherto overlooked process factors that accompany an office redesign intervention. In so doing, we (a) investigate the influence of activity-based areas on work engagement, performance, and mental health and (b) unpack the dynamics behind this intervention focusing our attention on mental models and the elements pertaining to the implementation strategy as outlined by Nielsen and Randall (2013).

4.3 METHOD

4.3.1 Office Redesign Intervention

Data was gathered in a large government agency for public health and the environment in the Netherlands using a quasi-experimental design. As part of a large "new ways of working" intervention, the organization under study completely redesigned one of their office buildings that was most suitable for activity-based areas (out of over 50 buildings). Employees working in that building were knowledge workers and at the start of the study and before the redesign, employees had their own assigned workplace, and shared their office with a maximum of one other colleague. The aim of this office redesign was to increase the flexible usage of office space since employees also made use of an organizational-wide teleworking policy resulting in unused office space. The intervention included changes in terms of the office layout and the office use. After the redesign, the organization created activity-based areas where employees were able to match their work tasks to designated workplaces. For instance, the establishment of silence rooms was intended for work that requires an employee to focus for a longer period of time. Similarly, open office areas were designed for tasks, which enable short discussions/chats in-between. In total, there were three different workplaces to carry out individual work (silence room, semi-open office, open office) and a variety of meetings rooms (e.g., brainstorm room, meeting rooms for planned and unplanned meetings).

4.3.2 Effect Evaluation

4.3.2.1 Procedure and Sample

Two online surveys were administered throughout the organization before and after the introduction of new ways of working (please refer to Figure 4.1 for a study timeline).

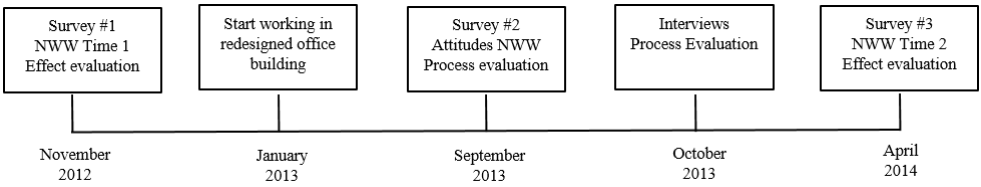


Figure 4.1. Study Timeline

The aim of the surveys was to evaluate new ways of working by obtaining insights into employee's perception and organization of work with respect to people (e.g., employee satisfaction, balance between work and home life, flexibility), profit (e.g., performance, innovativeness), and planet (e.g., travel to and from work, use of paper). Employees were informed about the survey through various communication channels. As can be taken from Figure 4.2, before the introduction of new ways of working (T1), out of the 1622 employees working in the organization at that time, a total of 855 respondents filled out the survey, corresponding to a response rate of 53%. Out of these 1622 employees, 273 employees worked in the redesigned building (representing the intervention group) and 187 of these filled out the survey (68%). The remaining 668 employees served as the control group. In April 2014 (T2), 16 months after the introduction of new ways of working and after the redesign of the office, 1487 employees worked for this organization and a total of 710 replied to the survey (48%). Out of these, 322 were part of the intervention group and 184 (57%) filled in the second survey. Out of the 1165 employees in the control group, 526 employees responded (45%). For the purpose of our analyses, only people who responded at both time points were included in our analysis. In total, 504 employees filled in both surveys. However, in total, thirty-two cases were removed from the analyses because twenty-eight cases from the intervention group were part of the control group at T1 and four cases from the control group were part of the intervention group at T1. This resulted in a final sample of 472 of which 356 are part of the control group and 116 to the intervention group.

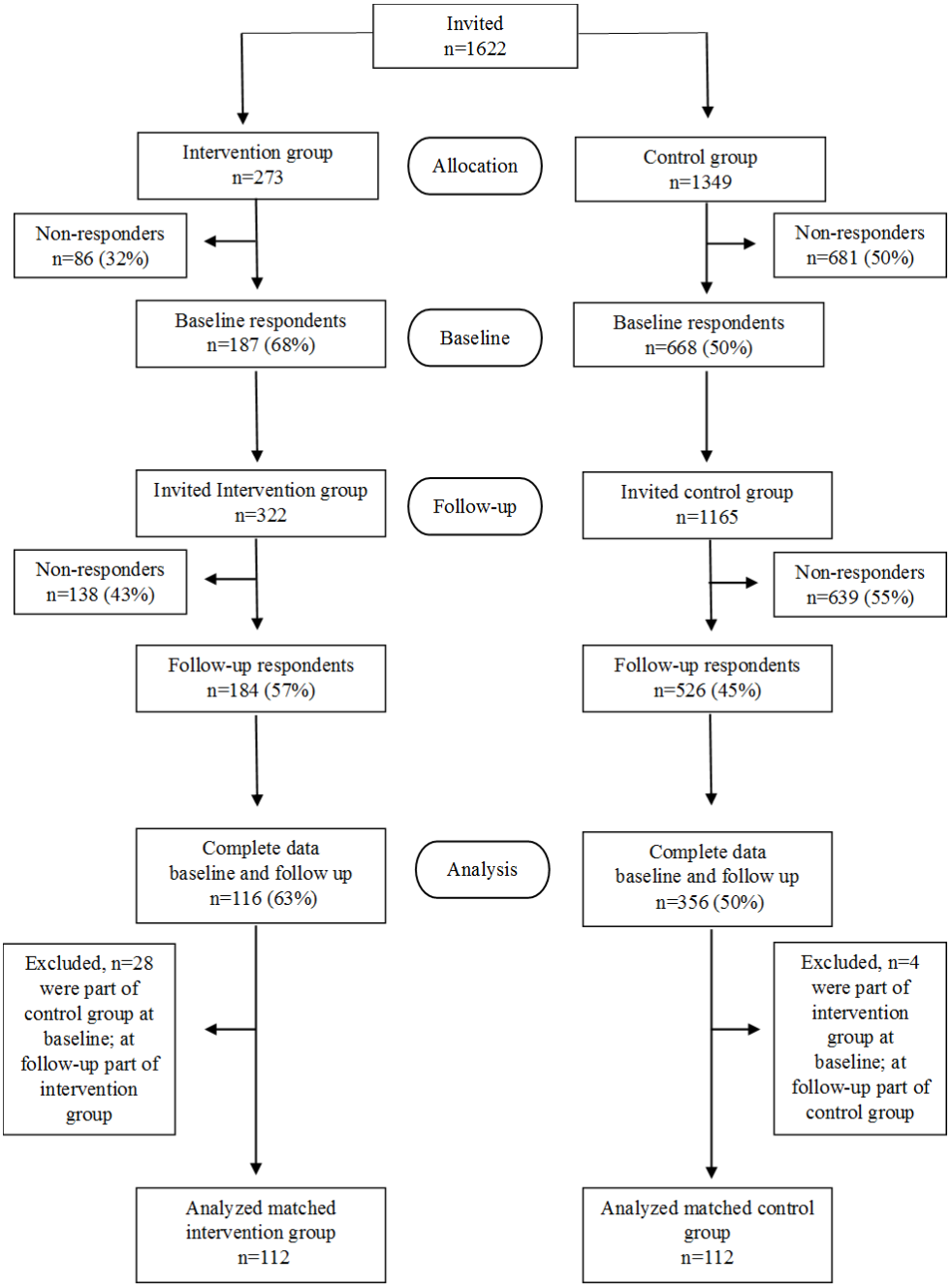


Figure 4.2. Study Flow Diagram

4.3.2.2 Outcome Measures

Work Engagement and performance were measured by means of a 5-point Likert scale ranging from 'strongly disagree to strongly agree'. Mental Health was measured with a 6-point Likert scale ranging from 'none of the time to all of the time'.

Work Engagement. Work engagement was measured using the Dutch shortened nine item version of the Utrecht Work Engagement Scale with a composite work engagement scale (Schaufeli et al., 2002). For the purpose of this research, two items from the absorption scale and one item from the dedication scale were exchanged with two and one other item from the same scales respectively. Example items are as follows: "When I get up in the morning I feel like going to work"; "I am enthusiastic about my job"; "I feel happy when I am working intensively" (T1 Cronbach's alpha =.85; T2 Cronbach's alpha =.83).

Performance. Performance was measured using five out of the six items of an overall performance measure developed by Staples, Hulland, and Higgins (1999). An example item is: "I believe I am an effective employee" (T1 Cronbach's alpha =.81; T2 Cronbach's alpha =.82).

Mental health. Mental health was measured using the 5-item scale (MHI-5) of the RAND Mental Health Inventory (RAND 36) (van der Zee & Sandermann, 1993). The scores are converted into a scale ranging from 0-100 with 100 the best mental health condition. An example item is: "How much of the time, during the past 4 weeks, have you been a very nervous person?" (T1 Cronbach's alpha =.79; T2 Cronbach's alpha =.76).

4.3.2.3 Data Analysis

Our data was analyzed using different methods. First, in order to compare differences in work engagement, performance, and mental health within the intervention group before and after the introduction of activity-based areas, we made use of dependent samples-test. Second, to compare differences in work engagement, performance, and mental health between the intervention group and the control group after the introduction of activity-based areas, we ran independent samples-t tests. We further made use of propensity score matching (Rosenbaum & Rubin, 1983) to identify a matched control group to compare to the intervention group. Matching was done on the basis of pre-defined covariates to reduce confounding bias (Connelly, Sackett, & Waters, 2013) and resulted in a matched sample of 224 respondents ($n_{\text{intervention group}}$ = 112 employees; $n_{\text{control group}}$ = 112 employees). It is usually expected that groups in experiments are deemed to be equal through the process of randomization. Due to the fact that

management pre- assigned departments to the intervention group, randomization was not possible in our study. Please refer to Appendix A.1 for a more detailed elaboration.

4.3.3 Process Evaluation

The results from both quantitative and qualitative process evaluations were used to explain the findings from the effect evaluation from the perspective of employees concerned with the change process. In so doing, we used elements suggested by Nielsen and Randall's (2013) and Nielsen and Abildgaard's (2013) model of process evaluation to obtain an in depth understanding of the implementation strategy and employee's mental models. As it was suggested by Nielsen and Randall (2013), data collection of the qualitative process evaluations by means of interviews occurred in-between the two data collection points of the quantitative effect evaluation.

With regard to the qualitative data, employees in the intervention group were invited to participate in semi-structured group interviews and panel discussions to evaluate the redesigned office building. The interviews were held 10 months after the implementation and 6 months before the follow up survey. In total, 22 employees took part in the semi-structured group interviews, in which one employee interviewed other employees in a group ranging from 2 to 4 people. With the help of an interview guide, the following eight themes were discussed: (1) overall satisfaction with new ways of working; (2) facilities in the redesigned building; (3) move to a new building in the future; (4) behavioral and psychosocial aspects; (5) knowledge sharing within the new building; (6) communication and the role of the manager; (7) exerting influence and (8) miscellaneous remarks; areas for improvement. Two panel discussions lasting for one hour each were held in which a total of 18 employees took part to provide additional insights into how satisfied people are with the redesigned building. People were able to express their opinions about what is good and what can be improved with respect to the new work environment. Data from the interviews and from the panel discussions were coded using a mixture of a concept-driven as well as a data-driven approach (Gibbs, 2008). While the interview guide served as initial codes for the interviews, open coding was used to identify additional categories (Gibbs, 2008). Open coding was also used to analyze the summaries from the panel discussions.

With respect to the quantitative process evaluation, a survey was administered nine months after the implementation to a total of 600 employees to compare attitudes regarding new ways of working and resistance to change between the intervention and control group. A total of 297 respondents completed the questionnaire representing a response rate of 49% of which 158 respondents belonged to the intervention group (53%) and 139 responses (47%) to the control group. Out of the 297 respondents, 128 were male and 169 were female. As we were mainly interested in the responses from employees who filled out all three surveys, the final sample for the process evaluation consisted of 101 employees of which 65 were in the pilot group and 36 were in the control group.

4.3.3.1 Intervention Process Measures

Routine-seeking. Routine seeking was measured with the 5 items of the routine-seeking subscale of the 17-item resistance to change scale developed by Oreg (2003). Items were measured with a Likert ranging from 1= totally disagree to 5= totally agree. Example items are as follows: "I'll take a routine day over a day full of unexpected events anytime"; "I like to do the same old things rather than try new and different ones" (Cronbach's alpha =.77).

4.4 RESULTS

Table 4.1 reports means, standard deviations and correlations for time 1 and time 2 of all variables used in this article.

4.4.1 Effect Evaluation

In order to check whether activity-based areas had a significant effect on work engagement, performance, and mental health we ran dependent samples-t tests (see Table 4.2). From these analyses, it appeared that the intervention did not lead to an increase or decrease in work engagement, performance and mental health. On average, employees did not show a significant difference in work engagement [M_{before}=3.63; SE=0.04, M_{after}=3.59; SE=0.04, 95% CI [-0.02, 0.11], $t(111) = 1.35$, p>.05], performance [M_{before}=3.69; SE=0.04, M_{after}=3.65; SE=0.04, 95% CI [-0.02, 0.10], $t(111) = 1.23$, p>.05] and mental health [M_{before}=75.86; SE=1.00, M_{after}=76.29; SE=1.10, 95% CI [-2.29, 1.44], $t(111) = -0.50$, p>.05].

	T1	T2								
	M (*SD*)	*M* (*SD*)	1	2	3	4	5	6	7	8
1. Work Engagement	3.58(.47)	3.62(.46)	1.00	.32**	.41**	.11	.04	.12	.07	-.02
2. Mental Health	75.86 (13.01)	75.20 (12.45)	.26**	1.00	.35**	.07	.-18**	.03	.02	-.05
3. Performance	3.69 (.48)	3.67 (.48)	.36**	.28**	1.00	-.00	.05	.11	.12	-.03
4. Age (35-44=3)	3.52 (.90)	3.74 (.90)	.15*	.10	.07	1.00	-.25**	-.04	.13	.14*
5. Gender (Female=2)	1.65 (.48)	1.65 (.48)	.03	-.14*	.05	-.23**	1.00	-.13	-.30**	-.15*
6. Education (Master=6)	6.51 (1.41)	6.46 (1.48)	.10	.03	.09	.07	-.10	1.00	.10	-.07
7. Hours of Employment	32.79 (4.70)	32.47 (4.33)	.06	-.05	.06	.04	-.32**	.06	1.00	.55**
8. Days at the office	4.01 (.79)	3.84 (.82)	.00	-.02	-.09	.08	-.11	-.12	.46**	1.0

Note: Time 1 correlations are displayed above the diagonal, time 2 correlations below (N=224); $^{*}p < .05$ $^{**}p < .01$

Table 4.1. Correlations, Means, and Standard Deviations

Variable	Intervention Group		
	Time 1 (N=112)	Time 2 (N=112)	t-statistic
Work Engagement	3.63	3.59	1.35
Mental Health	75.86	76.29	-.46
Performance	3.69	3.65	1.23

Note: All differences were greater than .05

Table 4.2. Average Values of Time 1 and Time 2 for the Intervention Group

As Table 4.3 reveals, there are also no significant differences in work engagement, performance, and mental health between the control and intervention group at time 2. On average, employees in the intervention group did not show greater work engagement levels [$M_{intervention}$=3.59; SE=0.04, $M_{control}$=3.58; SE=0.04, 95% CI [-0.13, 0.11], $t(222) = -0.16$, $p>.05$] than their counterparts. Mental health in the intervention group [$M_{intervention}$=76.29; SE=1.00, $M_{control}$=74.11; SE=1.32, 95% CI [-5.45, 1.01], $t(206.758) = -1.31$, $p>.05$] as well as performance [$M_{intervention}$=3.65; SE=0.04, $M_{control}$=3.69; SE=0.05, 95% CI [-0.09, 0.16], $t(222) = 0.59$, $p>.05$] were also not significantly higher/lower than in the control group. Thus, the move to activity-based areas appeared not to have any influence on employee's work engagement, performance, and mental health levels.

Variable	Time 2		
	Intervention Group (N=112)	Control group (N=112)	t-statistic
Work Engagement	3.59	3.58	-.16
Mental Health	76.29	74.11	-1.31
Performance	3.65	3.69	.59

Note: All differences were greater than .05

Table 4.3. Average Values at Time 2 for the Intervention and Control Group

4.4.2 Process Evaluation

Results from the interviews and panel discussions shed light on potential reasons why the office redesign intervention did not lead to improvements in performance and health outcomes. Coding revealed 'Not making use of flexibility' as a possible important theme and reason why engagement, performance, and mental health levels have not changed before and after the intervention. By using Nielsen and Randall's (2013) process evaluation model, we identified several factors related to mental models and factors pertaining to the implementation strategy that may shed further light on to why employees did not make use of the flexibility provided by activity-based areas. These can be found in Table 4.4.

Process Evaluation	**Factor**	**Explanation**
Mental Models	Individual	
	Workplace preference	Working from preferred workplace
	Nature of work tasks	No diversity in work tasks
	Perceived benefits of workplace switching	Switching workplaces is too time-consuming and costs too much effort
	Social	
	Being close to colleagues	Reserving workplaces for colleagues
		Predetermine workplaces with colleagues
Implementation Strategy	Drivers of Change	
	Employee involvement	Employees were not involved in change process
	Role of middle management	Middle managers did not facilitate the change process
	Communication and information	Communication and information about the change process were missing

Table 4.4. Coding Categories

4.4.2.1 Not Making Use of Workplace Flexibility

Across the board, we found that employees themselves did not make use of the increase in spatial flexibility provided by activity-based areas. In particular, respondents pointed out not to switch regularly between the different workplaces and to work from the same workplace every single day. Respondents indicated that this also led to new dynamics as fellow employees avoided using a certain workplace if they noticed that it is occupied by one single employee all the time. Thus, by not making use of flexibility, employees also indirectly restricted the flexibility of fellow colleagues in their workplace choice once certain employees do not change workplaces at all, which is also exemplified in the following quote:

"(…) There are also employees that always sit at the same workplace. This is not a problem per se; however, it becomes a problem as soon as they claim this to be their workplace. What you also see is that other employees avoid these workplaces and only sit there if there is no other workplace available (…)." (Interview 2)

4.4.2.2 Mental Models

In exploring possible reasons for not making use of the additional flexibility provided by activity-based areas, we found that employees rationalized their non-usage with prevailing mental models regarding the intervention content and program. Mental models in an intervention context define how employees respond to the intervention activities and can be useful in explaining their behaviors throughout the intervention project. The underlying question that guided this was: 'How did participants perceive the intervention and its activities?' (Nielsen & Randall, 2013). We identified several factors in that respect both at the individual and social level.

Individual Factors-Workplace Preference. Respondents noted that the manner in which they used activity-based areas reflected their personal preferences to workplaces to carry out work tasks. Employees indicated that they are inclined to go to work very early in order to be able to claim their preferred workplace:

"(…) Another colleague gets up really early so that he can reserve the same silence room (…)." (Interview 1)

Individual Factors-Nature of Work Tasks. Our data showed that not only respondent's personal preference for a certain workplace played a role in determining their actions. Some employees hinted at the nature of their work tasks by stating that their job does not contain great diversity in work activities and those that do have diversity in work activities pointed out that places provided do not match with their work:

"Flexibility should not become a straightjacket. A great deal of my work tasks is every day the same, so I can really work from just one workplace." (Quote from plenary discussion 2)

"Too little attention has been paid to the diversity of work tasks (…)."
(Quote from plenary discussion 1)

Individual Factors-Perceived Benefits. Even though a few participants explicitly stated to counter this dynamic, most had normalized not switching between workplaces deeming it as too time-consuming and costing too much effort, thus not perceiving the benefits of the concept:

"I really try to work differently. Now and then I consciously chose a different workplace. However, it does not provide me with any benefits. For now, it only costs me time." (Quote from plenary discussion 1)

"Adjusting the workplace every time is really time-consuming and often does not work. That is why I sit on the same workplace every day." (Quote from plenary discussion 2)

Our analysis thus suggests that employees do not select a workplace based on the task they need to carry out but rather enact a norm of sticking to their routines to conserve individual resources to make sense of the altered environment. Our results further show that respondent's need for routine is also socially enacted. In particular, individuals' choices and actions in choosing not to use the increase in flexibility does not occur in isolation but respondents indicated that their choice is also contingent upon co-workers and pointed out that they wanted to remain close to their colleagues.

Social Factors-Being Close to Colleagues. Being close to colleagues was achieved by reserving workplaces for fellow colleagues. Interviewees pointed out that some employees turned it into a habit to reserve a workplace for colleagues who come later to work during the day:

"(…) Sometimes he even reserves a workplace for his colleague so that his colleague can sit next to him." (Interview 1)

To guarantee that colleagues sit close to each other, interviewee's need for conserving pre-existing social structures was also exemplified by employees who expressed to predetermine a workplace with fellow colleagues for the next day to ensure that they work close to each other:

"I start to work really early in the morning, so I can sit wherever I want. For me, it is a bigger problem that- because I come so early- I don't know where my colleagues are sitting. But sometimes we agree in advance: Shall we sit together tomorrow?" (Interview 5)

Those prevailing mental models demonstrate that by either selecting a workplace that is in line with own preferences and/or with the place of their colleagues, our interviewees tried to conserve pre-existing social structures and individual resources thereby not making use of the provided increase in flexibility and enacting a norm of sticking to their routines. Such reasoning allowed them to make sense of this change process. This logic of routine-seeking was also recognized as a result of the relative negligence of important implementation factors.

4.4.2.3 Implementation Factors

Next to mental models, we also identified factors pertaining to the implementation strategy that may account for why employees did not change between the new workplaces and hold on to old routines. The interviews revealed that drivers of a successful change process that have been acknowledged as such by prior research (e.g., Nielsen & Randall, 2013; Nielsen & Abildgaard, 2013) have been neglected in the implementation process.

Drivers of Change-Employee Involvement. In particular, employees indicated that the extent to which they had been involved in the change process was minimal or non-existent and that their opinions were not fully taken into account:

"(…) We did not have any say and why certain choices were made has not been explained. We still can say when we don't like something, but no one does anything with it (…)." (Interview 3)

"People here are no longer willing to say something because we are not heard anyway. Where are the picnic tables? We are not taken seriously. We are simply people that do not like change (…). That is why they don't have to listen to our concerns." (Interview 4).

Drivers of Change-Role of Middle Management. Employees also expressed that middle managers did not facilitate the change but think that they should have played a bigger role in the facilitation process:

"I kinda have the feeling that our department manager does not really communicate his own opinion; he says what senior management says. I already recognized this earlier: New ways of working at [name of organization] needs to be a success. Managers need to ensure this- no matter what. I hear him now saying things that he would not have said a year ago. This is not being honest." (Interview 4)

Drivers of Change-Communication and Information. Employees also found that the communication over the new work environment was lacking:

"The communication of both - department manager and center manager - was not really facilitating. I also had the feeling that in general the communication over new ways of working was obscured by all the communication from all the different changes going on at [name of the organization] the same time." (Interview 1)

"I think it is important that managers play a stimulating role in the whole change. This will reduce resistance." (Interview 4)

Interview responses also revealed that employees miss information about formal working rules, which guide behavior in such a new work environment:

"(…) In the beginning, they spoke about working rules that were supposed to guide us, however, nothing has ever been put in place. Nothing happened. Also, no one explained the usage of the different workplaces. When shall I work in the open office? When shall I work in the silence room? There are even colleagues that work in a silence room and have their door open (…)." (Interview 2)

These factors may also have contributed to the fact that employees relied on existing routines to make sense of the unknown situation since this was the only way to keep performing and staying well. Hence, from the qualitative process evaluation part we conclude that by not making use of flexibility due to employee's need to stick to their routines by conserving pre-existing social structures and individual resources, health and performance outcomes remained unchanged. On top of that, important implementation factors were not given adequate attention, which furthered employee's sticking to their old routines thereby not making use of flexibility.

To investigate the need for routine further, we ran an independent samples t-test to see whether there is a difference in the need for routine-seeking between the intervention and the control group. As Table 4.5 reveals, employees in the intervention group reported a greater need for routine seeking (M=2.61; SE=0.07) than matched employees in the control group (*M*=2.32; SE=0.11). The difference of -0.29, 95% CI [-0.52, -0.04], was significant $t(99) = -2.30$, $p<.05$ representing a medium-sized effect (Cohen's d=0.47).

	Intervention Group (N=65)	Control group (N=36)	t-statistic
Routine Seeking	2.61	2.33	-2.30*

*$p < .05$

Table 4.5. Process Evaluation: Average Differences between the Intervention and the Control Group in Routine Seeking

4.5 DISCUSSION

This chapter was motivated by an interest in understanding the dynamics of an office redesign intervention (activity-based areas) for performance and health outcomes. We unraveled that employees themselves did not make use of the flexibility provided by activity-based areas by performing their work tasks at the same workplace partly contributing to unchanged performance and health outcomes. By using both a quantitative effect as well as a qualitative and quantitative process evaluation we identified important process factors that offer first insights into the underlying mechanisms. In the following, we discuss the most important theoretical and practical contributions of our study.

4.5.1 Theoretical Implications

A first theoretical contribution of this study is that it revealed that health and performance outcomes were not affected by this specific office redesign intervention. In particular, employees in the intervention group did not perceive significantly higher or lower work engagement, mental health, and, performance levels after the intervention; average work engagement, mental health, and, performance scores did not change significantly in the intervention group. Our results also indicated that there is no significant difference in average levels of work engagement, mental health, and, performance between the control and intervention group. Our study thereby upholds the argument about non-conformity of office redesign interventions for work outcomes and extends this to a relatively new type of office redesign: activity-based areas thereby contributing to scholarly work in office redesign (e.g., De Croon et al., 2005). In focusing on the latter, our findings also shed light on how work outcomes behave under such new and innovative office concepts and thus extends particularly the literature on work engagement. Previous research on work engagement has largely been checked to more traditional ways of working not accounting for potential differences once employees are able to choose freely between different workplaces inside the office (e.g., Bakker, Demerouti, Hakanen, & Xanthopoulou, 2007; Schaufeli et al., 2009). In light of the increasing importance of these new office concepts, our study is one of the first to examine this in relation to work engagement.

A second major theoretical contribution of this chapter is that it offers first evidence for a possible reason why work engagement, mental health, and performance were not affected

by the office redesign intervention. Previous accounts of office redesign and health and performance did not provide insights into the underlying motives why the office redesign they studied did (not) lead to improvements in health conditions (e.g., Danielsson & Bodin, 2008; Meijer et al., 2009; Windlinger et al., 2015). By uncovering process-related intervention factors, this study furthers our understanding on hindrance and facilitating factors for activity-based areas and integrates literature on process evaluation and office redesign.

Specifically, our process-evaluative findings unraveled that employees themselves did not make use of the flexibility provided by activity-based areas thereby not changing their behavior that comes along with working in activity-based areas. Employees refrained from selecting a workplace that fits to their task to optimize their work output and pointed out not to switch between different workplaces but rather to work from the same workplace every day. This finding was rationalized with prevailing mental models regarding the intervention content and program of activity-based areas. On the one hand not making use of flexibility was individually enacted. Our respondents indicated to get up extra early to work from their preferred workplace inside the redesigned office building and most had normalized not switching between workplaces deeming it as too time-consuming and costing too much effort. Moreover, results from the interviews also revealed that employee's work does not involve great diversity in work activities and/or that workplaces do not fit to the diversity in work activities. On the other hand not making use of flexibility was also socially driven. Our findings revealed that employees tried to remain close to their colleagues by reserving workplaces or by discussing in advance from which workplace to work from on the next day. Hence, employees did not change their workplace behavior after the intervention and thus kept working according to the same patterns as before the move to activity-based areas. In that sense, "no change is to be understood as behavior continues to be guided by the same stable and familiar routines" (Becker, Lazaric, Nelson, & Winter, 2005, p. 776). In particular, we identified this specific behavior as 'sticking to routines' and employee's need for routine-seeking.

On a general level, routines are understood as roots of stability cultivating a sense of ontological security (Giddens, 1984) and this is especially true in unknown and novel situations. Scholarly efforts in understanding organizational routines has proven to be extremely difficult (Cohen, 2007) resulting in many different conceptualizations both at the individual and collective level; but the common denominator that cuts across all definitions represents recurrence (something which happens more than one time) (Becker, 2004). One of the most

prevalent definitions in this regard is the one offered by Nelson and Winter (1982, p. 97) who refer to routines as "a repetitive pattern of activity in an entire organization, (or) to an individual skill (…)." Working from the same workplace every day may be regarded as such a repetitive pattern of activity or behavior among the individuals under study, which partly prevented the success of activity-based areas in terms of task-optimized workplaces.

The drive to hold on to organizational routines as a stability reinforcing mechanism is reflected by an individual's tendency to conserve one's interests, status, and as long as the routinized behavior seconds the rationale of an employee's actions (March, 1994). Indeed, by sticking to their routines, the knowledge workers in our study enacted a norm of conserving pre-existing social structures and individual resources. According to the conservation of resources theory (Hobfoll, 1989), employees try to protect various resources whenever their resources are in danger in order to keep their identity thereby maintaining their well-being (Hobfoll, 1989). Resources possess intrinsic or instrumental value, and Hobfoll distinguishes between four different kinds. Object resources (e.g. car, house, but also one's workplace in work context), conditions (e.g., marriage, position), personal characteristics (skills and personality characteristics), and energy resources (e.g., knowledge). Applying this to our case of knowledge workers, the loss of one's personal workplace and the potential danger of losing social ties triggered employees to conserve those resources thereby relying on their routines.

Protecting social and individual resources by not switching workplaces enabled employees to keep their health and performance levels at the same level as before the move to activity-based areas. This proclivity to elicit known, routine patterns of behavior in circumstances that actually ask for a change has been implicated as a cause of inertia (Hannan & Freeman, 1984), mindlessness (Ashforth & Fried, 1988), or competency traps (March, 1991), amongst others. In our case, sticking to routines did not harm organizational outcomes but helped participants to make sense of the unfamiliar situation thereby preserving their well-being, performance, and mental health levels. In fact, in circumstances of uncertainty, routines have an important impact on an individuals' ability to make sense of a situation thereby reducing uncertainty and providing stability (Dosi & Egidi, 1991; Gersick & Hackman, 1990; Weick, 1995).

The change to activity-based areas involved a great deal of uncertainty for employees since important drivers of successful change initiatives were not fully taken into consideration in the implementation of the intervention, which may have aided employees in sense making.

In particular, our respondents perceived that middle managers did not facilitate the change process well and regarded the communication over the new work environment as insufficient. Usually, management can diminish uncertainty regarding a change process by influencing organizational routines through their actions (Becker et al., 2005). Previous research demonstrated the importance of middle managers (e.g., Nielsen & Randall, 2009) as active change agents that shape the organizational process (Nielsen & Randall, 2013) and can help in sense-making. For instance, Microsoft's path to a more innovative usage of office space was shaped by strong management commitment. Van Heck, van Baalen, van der Meulen, and van Oosterhout (2012, p. 181) in their study about Microsoft NL reported similar conventions with regard to workplace usage but uncovered that management functioned as a corrective mechanism as this quote nicely illustrates: "Several people easily found their fixed flex-desk. In other words, they did not use the new office according to the [name of vision] vision of activity-based working. But some managers corrected this immediately or were just moving themselves and showing their team what was expected. This was very effective."

Next to middle managers being a potential source of uncertainty cultivating routinized behavior, employees in our study also indicated that they had not been involved in the change process and that their voices over what goes well/not well were not heard. Participation in organizational change processes has been identified as one important driver for successful organizational change initiatives (Piderit, 2000). Past research has advocated that increased employee participation in organizational change processes increases perceived ownership of change, facilitating the implementation process and may have helped employees in understanding the new situation (Rosskam, 2009). For instance, Nielsen and Randall (2012) recently demonstrated that involving employees in a team implementation process was important to receive support for the change process and also Microsoft NL's success of activity-based areas was partly driven by engaging and involving employees (see van Heck et al., 2012).

From the qualitative process evaluation part we conclude that prevailing mental models and the relative negligence of employee involvement and management commitment may have contributed to the fact that employees relied on old routines to make sense of the unknown situation since this was the only way to keep performing and to stay well. Results from the quantitative process evaluation confirmed this rationale. We discovered that the need for routine-seeking was significantly higher in the intervention group than in the control group. Consequently, not making use of flexibility due to employee's need for routine may have been

the crux of why work outcomes did not change significantly after the intervention. By explaining not to make use of the flexibility as the result one's need for routine seeking, the professionals under study found a way to cope with the uncertainty arising from the switch to activity-based workplaces.

4.5.2 Practical Implications

Having shed light on why the move to activity-based areas did not provide individual-level benefits might be of particular interest for knowledge work organizations that wish to introduce such a new office concept. While not taking into account certain implementation factors did not harm work engagement, mental health, and performance, it certainly can also backfire if employees do not have the chance to stick to old work routines. That is why organizations need to ensure the suitability of the nature of work to activity-based areas and should emphasize the perceived benefits for employees. In this respect, organizations are advised to offer employees trainings on how to best cope with activity-based areas so that they learn what it means to carefully select workplaces to optimize one's work output. Equally important is to take into account the role employees themselves and in particular the role middle managers play in this change process. Especially middle managers can hinder or facilitate the change process; that is why it is important to emphasize their role in the change process.

4.5.3 Limitations and Avenues for Future Research

Nielsen and Randall (2013) suggested to carry out the process evaluation in both the intervention and control group to be able to understand what is happening in both groups and because often employees from the intervention group interact with people from the control group thereby influencing outcomes. Yet, due to the study's resources, we were only able to carry out the qualitative part of the process evaluation in the intervention group. Conducting interviews within the control group may shed light on factors that can explain for instance why the control group's need for routine seeking was lower and thus, future studies might consider involving the control group in the qualitative process evaluation as well. Since we failed to find a significant change of activity-based areas and work outcomes partly due to the negligence of paying attention to important implementation factors such as involvement of employees and the role of middle managers, future research is directed to take into account these

implementation factors. This may possibly uncover a positive or negative effect of activity-based areas on work outcomes. Given the limitations of a case study design, the explanations we offer for why health and performance outcomes did not change may have been subject to certain biases. In particular, since participation in the evaluation of the redesigned office building was voluntary and anonymous, sampling did not allow us to detect differences across the participants in terms of gender, tenure, age or position. It would have been insightful to compare responses for instance from middle managers, team managers, and employees to potentially obtain a more nuanced view. In this context, employees who were willing to participate in the office redesign evaluation may also have been more prone to express their opinions about the office redesign in general. Hence, we cannot entirely exclude the possibility for selection bias.

4.6 CONCLUSION

Changes in office design are popular and more and more organizations adopt new office concepts. Unfortunately, no clear case can be made yet for innovative office concepts as prior research has failed to find conclusive evidence for performance and health outcomes. Our study unpacked the dynamics as to why a specific kind of office redesign did not lead to improvements in health and performance outcomes. In particular, the mechanism of routine seeking is evident in our study contributing to unchanged performance and health levels.

Chapter 5

Towards a Dynamic Perspective of Workplace Flexibility: A Latent Growth Curve Modelling Approach to Understand the Long-term Effects of Workplace Flexibility for Performance and Work Engagement

Abstract

The relationship between workplace flexibility and performance and workplace flexibility and well-being is poorly understood and represents one of the greatest dilemmas in flexibility research. Prior cross-sectional research has revealed that workplace flexibility can lead to positive, negative, and zero effects for performance and well-being but has substantially left unexplored how to disentangle these mixed findings. In spite of much progress in flexibility research, the pattern of workplace flexibility development has yet to receive scholarly attention. The organization under study implemented a flexible working policy, which allows employees to determine when, where, and how to work. By using a three-wave longitudinal study (N=273) over 37 months, our latent growth curve model of flexibility development showed that workplace flexibility does not represent a static concept but is rather dynamic and increases over time. This increase was concomitant with an increase in digital mobility. Furthermore, our results indicate that changes in workplace flexibility are positively related to changes in work engagement and predict changes in performance over time. Hence, performance and work engagement benefits through workplace flexibility can be realized but take time.

5.1 INTRODUCTION

Flexible working practices — allowing employees to work anywhere anytime by making use of information and communication technology (ICT) — poses an important dilemma for employees and their organizations. On the one hand flexible working practices have shown to positively influence employee performance and well-being (e.g., Bailey & Kurland, 2002; Hill, Miller, Weiner, & Colihan, 1998) because employees are able to use their working time and locations in a more efficient way. On the other hand working anywhere anytime can also contribute negatively to employee performance and employee well-being by engendering blurring boundaries and intensifying work detractions partly due to the usage of ICT or distractions at home (e.g., Ashforth, Kreiner, & Fugate, 2000; Kelliher & Anderson, 2008; ten Brummelhuis, Bakker, Hetland, & Keulemans, 2012). Yet, other cross-sectional studies also have resulted in zero effects of flexible working practices on performance and well-being outcomes (Staples, 2001; Trent et al., 1994). Consequently, a clear business case for flexible working practices, performance, and well-being is still to be made (De Menezes & Kelliher, 2011). This is quite troublesome considering the popularity of the practice in both businesses and among policy makers in Europe and the USA (Eurostat, 2016; U.S. Department of Labor, 2016).

Possible explanations for these apparent inconsistencies revolve around both the lack of incorporating important moderators and mediators (e.g., experience with flexible working), and the lack of longitudinal research (De Menezes & Kelliher, 2011). In particular, De Menezes and Kelliher (2011) raised issues about the role of time and suggested that it "may take time to adjust to new working arrangements and therefore there may be a time lag before any performance outcomes emerge" (p. 464). On a similar note, Allen, Golden, and Shockley (2015) also called for more longitudinal studies in the area of telecommuting and raised questions about the sustainability of this practice.

In the present chapter, we therefore follow up on those calls and incorporate the role of time in flexibility research by conducting a three-wave longitudinal study over a period of 37 months. In particular, we argue that feelings of workplace flexibility are not static but are highly dynamic and increase over time. It is generally well-established that those advances in information and communication technology made working from anywhere anytime possible and thus, technology development is vital for making use of flexible working practices (Baarne et al., 2010). In this respect, especially the last decade has seen a remarkable growth in the

development of new digital technologies allowing for even greater feelings of flexibility (Westerman et al., 2014a). However, providing all different IT infrastructures that permit *digital mobility,* such as creating an interface to access work files from home, providing employees with hardware (e.g., laptops or tablets), may take time and may not function errorless in the beginning (cf. Westerman, Bonnet, & McAfee, 2012). Hence, if advances in technology enable flexibility, we suspect that feelings of workplace flexibility are likely to grow with those advances. This is not to say that technology is the only prerequisite to experience increased feelings of flexibility over time. Prior research (e.g., Bal & Jansen, 2016) has pinpointed to other vital factors, such as organizational and co-worker support and organizational climate, which may also develop over time and contribute positively to experiences of flexibility, but these will not be the focus of the current study.

Consequently, we first hypothesize that perceptions of workplace flexibility increase over time as well as digital mobility, and that increases in digital mobility are related to increases of flexibility over the course of 37 months. Second, we assume that this dynamic nature of workplace flexibility may be responsible for why performance and well-being effects are not able to be readily seen and hypothesize that changes in workplace flexibility are related to and predict changes in performance and work engagement (work-related well-being) over the course of 37 months. Work engagement can be seen as an important indicator of work-related well-being (Bakker & Demerouti, 2008) and represents a psychological state that is related to higher performance. Well-researched antecedents of work engagement are access to job resources such as autonomy, co-worker support, and supervisor feedback (for a review Bakker, Demerouti, & Sanz-Vergel, 2014). Importantly, it is assumed that flexible working practices may alter the experience of certain job resources (Richman et al., 2008; Sardeshmukh et al., 2012; ten Brummelhuis et al., 2012) but the relation between flexible working practices and work engagement is not well understood.

In the present chapter, we aim to test these assumptions using a latent growth curve modelling approach (Duncan, Duncan, Strycker, Li, & Alpert, 1999). Our goal is to provide a more nuanced and advanced understanding of workplace flexibility by contributing a model of change patterns to flexibility research that helps to guide future theoretical developments and empirical research. By investigating the relation between workplace flexibility and work engagement we also contribute to the work engagement literature. Our findings may be of heightened interest for organizations wishing to implement flexible working practices or those

who have already done so. Our results should take off the pressure to realize performance gains right after flexible working practices have been implemented. Depending on the level of digitalization inside the organization, performance effects of flexibility may take off faster or slower.

In the following, we first shortly review the concept of workplace flexibility and relate it to technology, performance, and work engagement. Next, we present the results from our latent growth curve analysis and finally, theoretical and practical implications as well as limitations of the study are discussed.

5.2 THEORY AND HYPOTHESES

5.2.1 The Dynamic Nature of Flexible Working Practices: The Role of Digital Mobility

Technology pervades organizations and enabled working in a flexible manner (Baarne et al., 2010; Yoo, Boland, Lyytinen, & Majchrzak, 2012). Flexible working practices are understood as a workplace characteristic that allows employees to decide when to work, where to work, and how to carry out work (Hill et al., 2008). Flexi-time, a popular flexible working practice, gives employees the freedom and control to adjust working hours to personal needs (Baltes et al., 1999). Flexplace enables employees to perform tasks away from the office (e.g., at home, at a client's premises, in the train) or increasingly in newly designed workspaces within the central office (e.g., silent areas, open office areas, meeting rooms, or brainstorm rooms). Such a flexplace policy is also known as telework, remote working or telecommuting, and many organizations combine both spatial and temporal elements in their flexible working policy (cf. De Menezes & Kelliher, 2011). Importantly, scholars distinguish between the availability and actual usage of flexibility (Allen et al., 2013; Allen & Shockley, 2009) and previous scholars noted that availability of flexibility is a prerequisite for use, but availability does not necessarily lead to usage (Allen & Shockley, 2009). Moreover, there is a distinction between the actual availability of flexible working practices and employees' *perception* of this flexibility (Hill et al., 2001). Therefore, it is essential to discern between the more formal flexible working practices made available by policies inside the organization, and the actual flexibility experienced by employees, as we will do in the current paper, which we refer to as *perceived workplace flexibility*.

Especially the last decade has seen a tremendous development in digital technologies opening up many possibilities for allowing feelings of greater flexibility. While personal computers only marked the beginning of such flexibility, the inception of the smartphone and related mobile computing devices such as tablets fostered digital mobility, and gave workplace flexibility an entirely new dimension (Westerman et al., 2014a). Videoconferencing tools, such as Skype, instant messaging programs, such as What's App or Microsoft Link, (business) social media sites, such as Yammer or Facebook, and Wikis, provide employees with the ability to stay in touch, share knowledge, and collaborate with fellow colleagues whenever and wherever they want. Changes in the internal IT infrastructures, such as enterprise resource planning systems, allow employees to access work files from anywhere anytime, which is assumed to increase feelings of flexibility (cf. Westerman et al., 2014a).

Hence, those at times staggering advances in digitalization, which allow for digital mobility, have expedited perceptions of workplace flexibility, but developments in digitalization take time. Providing IT infrastructures that permit digital mobility such as creating an interface to access work files from home, providing employees with hardware, such as laptops or tablets, may take time and may not function flawless right from the beginning, and may suffer from teething problems (cf. Westerman et al., 2012). The main requirement of advancing in digitalization are "time, tenacity, and leadership" and "with these, knowledgeable companies can assemble the elements of technological progress into a mosaic not at just once, but continuously over time" (Westerman et al., 2014a, p. 4). Thus, digitalization is not a once in an organization's life-time implemented project that is able to foster immediate feelings of flexibility, and which results in immediate performance benefits; it rather represents a dynamic continuous process (Brynjolfsson & McAfee, 2012) in which organizations "are constantly identifying new ways to redefine the way they work in the new digital era" (Westerman, Bonnet, & McAfee, 2014b, para. 34).

In light of the interwoven relation between digitalization and perceived workplace flexibility, we argue that feelings of workplace flexibility may take some time as they develop and increase with advances in digital mobility. Thus, we expect feelings of workplace flexibility to change after its first uptake in the organization, and these changes will be concomitant with changes in digital mobility. We argue that perceived workplace flexibility extends from the first uptake in an organization to the subsequent years, and this positive development occurs concomitantly with changes in digital mobility in the organization. Hence, we propose that

perceived workplace flexibility develops over time and that the rate of change in perceived workplace flexibility is positively related to the rate of change of digital mobility resulting in the following hypotheses:

Hypothesis 1. Perceptions of workplace flexibility increase over time.

Hypothesis 2. Digital mobility increases over time.

Hypothesis 3. Changes in perceived workplace flexibility over time are positively related to changes in digital mobility over time.

5.2.2 Changes in Perceived Workplace Flexibility and Outcomes

Recognizing that experiencing workplace flexibility may take some time and may change, depending on the level of digital mobility also suggests that assumed performance and work engagement benefits of perceived workplace flexibility need time and may actually depend on changes in perceived workplace flexibility. Work engagement in the literature is understood as a work-related indicator of well-being (Bakker & Demerouti, 2008) and is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor [high levels of energy], dedication [feelings of enthusiasm, pride, and significance], and absorption [fully concentrated and engrossed] (…)" (Schaufeli, Martínez, Salanova, & Bakker, 2002, p. 74).

Performance and well-being benefits of perceived workplace flexibility are often explained through feelings of increased control and autonomy over work processes (Gajendran & Harrison, 2007; Glass & Finley, 2002). Autonomy relates to decision latitude, which has been identified as an important psychological factor to prevent work stress (Karasek, 1979). Especially autonomy is assumed to be an important job resource that fosters work engagement and consequently performance (Bakker & Demerouti, 2007). With perceived workplace flexibility, employees have greater discretion over their work and can tailor their work to personal preferences. It is argued that when employees have the choice of when, where, and how to work, they use their own circadian (physiological 24 hours cycle) rhythm more efficiently (Pierce & Newstrom, 1980) by being able to seek out time spans in which they are most productive. Greater control over aligning personal and work related demands should also lead to reduced stress and higher well-being levels resulting in higher performance for employees

(Baltes et al., 1999). Cross-sectional and meta analytic evidence support this line of reasoning (see Gajendran & Harrison, 2007).

Others (e.g., Bélanger, 1999; Fairweather, 1999) noted that, for instance, working from home increases employee performance since work distractions are reduced to a minimum level. However, in the course of the digitalization, employees are increasingly constantly available and feel pressure to be continuously connected, which adds an entirely new dimension of work distractions (telepressure). More recent research in this respect (e.g., Barber & Santuzzi, 2015; Mazmanian, Orlikowski, & Yates, 2013) discovered that usage of different ICTs can also increase stress levels, reduce well-being, and result in performance losses. Yet, there is also research that shows an opposite effect. Ten Brummelhuis (2012) in their diary study about working anywhere anytime and work engagement found that such a flexible policy leads to more efficient and effective communication, which in turn results in reduced levels of exhaustion. Exhaustion levels were decreased because of reduced face-to-face interruptions while working from a remote location, among others. Also, in virtue of the rise of the information and communication technology, permanent connectivity makes employees more easily reachable via email or phone which increases availability and promotes a high-pace work process, leading to more work engagement and performance (Rennecker & Godwin, 2005).

The preceding discussion highlights the controversial and contradictory outcomes of flexible working practices that were found by prior cross-sectional studies and meta analyses. Earlier discussions on a more process-based view of especially telecommuting already proposed that, "over time, as individuals gain experience with telecommuting, they begin to modify the technology and processes of working from a distance to have lesser costs and greater benefits" (Gajendran & Harrison, 2007, p. 1530). As we argued before, in the beginning, the feeling of flexibility may not be fully experienced yet, as digital mobility may still be in its infancy. Hence, in the beginning, the feelings of increased autonomy through perceived workplace flexibility over work processes may not be entirely present due to potential initial difficulties related to technology. Also, the often cited pressure to be constantly availability may diminish over time as employees have more experience with flexibility and know better how to handle this. Thus, we argue that those proposed performance and work engagement benefits of perceived workplace flexibility can only flourish after some time. Hence, we propose that

Hypothesis 4: Changes in perceived workplace flexibility are positively related to changes in performance over time.

Hypothesis 5: Changes in perceived workplace flexibility are positively related to changes in work engagement over time.

On top of the suggested positive associations between the rate of change in perceived workplace flexibility and the rate of change in outcomes, we also argue that increases in performance and work engagement over time may actually depend on increases in flexibility. Previous research noted that certain job resources such as autonomy are a prerequisite for employees to experience work engagement and consequently performance (Bakker & Demerouti, 2008). Since flexible working practices are assumed to increase the feelings of autonomy and control over work processes, it can be assumed that the rate of increase in work engagement and performance is dependent on the rate of increase in workplace flexibility in a flexible organization. Hence,

Hypothesis 6: The rate of change in performance is predicted by the rate of change in workplace flexibility over time.

Hypothesis 7: The rate of change in work engagement is predicted by the rate of change in perceived workplace flexibility over time.

5.3 METHOD

5.3.1 Procedure and Participants

Participants were 1622 employees working in a large government agency for public health and the environment in the Netherlands. The organization under study introduced a "new ways of working" program to all employees consisting of a variety different activities. At the core of the program is its flexible working policy, and before the introduction of the program, it was not the policy to work flexibly. Employees are allowed to vary both the timing and location of their work. To evaluate the new ways of working program, employees were requested to fill out a three questionnaires at three different points in time. The aim of the surveys was to obtain insights into employees' perception and organization of work with respect to people (e.g., employee satisfaction, balance between work and home life, perceived flexibility)

profit (e.g., performance, innovativeness), and planet (e.g., travel to and from work, use of paper). The time between baseline (T0) and the first (T1) follow up was 16 months and between the baseline (T0) and second follow-up (T2) was 37 months. This is in line with previous suggestions and research on the introduction of HR practices inside organizations (Wright & Haggerty, 2005). At T0, before the introduction of the new ways of working program, out of the 1622 employees working at the organization at that time, 855 responded (53% response rate). At T1, all employees working within the organization at that time were approached (n=1487) out of whom 710 responded, corresponding to a response rate of 58%. At T2, 37 months after the introduction of new ways of working, out of 1627 employees, 551 employees returned the questionnaire (34%). To analyze our data, we used only those responses from individuals who participated in all three studies (n=273). The sample consists of 124 males (45%) and 149 females (55%). At T2, their mean age was 49 years (SD=8.5); on average they have worked for the organization under study for 16 years (SD=11.2) and worked in their current position for about 7 years (SD=4.7). Individuals were highly educated, 89% had at least a bachelor's degree. On average, employees worked for 33.24 hours per week and spent 3.79 days at the office out of the 5 working days. No significant differences were found on focal variables between respondents who participated in all three studies and those who only participated in 2012, 2014, and 2016 respectively. For two of the demographic variables (age and tenure) significant differences were found between the employees that only participated in 2016 and those that participated in all three measurements. Respondents that only participated in 2016 were on average younger (44.74; SD=10.34) and worked less long in the organization under study (10.65 years, SD=10.68).

5.3.2 Measures

Unless otherwise noted, responses were rated on a 5-point Likert scale ranging from 'strongly disagree to strongly agree'.

Perceived Workplace Flexibility. Perceived workplace flexibility was assessed using 3 of the 4 items of the perceived workplace flexibility scale developed by

Hill, Hawkins, Ferris, and Weitzman (2001)[6]. Items were adjusted to the 'I' form and we developed a fourth item ourselves. Example items are: "I have much flexibility to determine where I work"; "I have much flexibility to determine the way in which I carry out my work" (T1 Cronbach's alpha =.84; T2 Cronbach's alpha =.82; T3 Cronbach's alpha =.82).

Digital mobility. Digital mobility was measured with three items that were developed for the purpose of this study. Example items are: "I can use the IT facilities provided by [the organization] that I need, irrespective of where I am" or "I always have access to the IT facilities provided by [the organization] that I need." The scale resulted in good reliabilities (T1 Cronbach's alpha =.81; T2 Cronbach's alpha =.83; T3 Cronbach's alpha =.85).

Work engagement. Work engagement was assessed with the Dutch shortened nine item version of the Utrecht Work Engagement Scale (Schaufeli, Salanova, González-Romá, & Bakker, 2002). For the purpose of this research, we used an overall engagement measure (Schaufeli, Bakker, & Salanova, 2006). Example items are as follows: "When I get up in the morning I feel like going to work"; "I am enthusiastic about my job; "I feel happy when I am working intensively" (T1 Cronbach's alpha =.86; T2 Cronbach's alpha =.86; T3 Cronbach's alpha =.85).

Performance. Performance was measured with five out of the six items of an overall individual productivity measure developed by Staples, Hulland, and Higgins (1999). The last item "My manager believes I am an efficient worker" was left out because of its focus on the manager. Individual performance was chosen since it has been shown to be the most researched but least unequivocal performance indicator (De Menezes & Kelliher, 2011). Example items are as follows: "I believe I am an effective employee" (T1 Cronbach's alpha =.82; T2 Cronbach's alpha =.84; T3 Cronbach's alpha =.84).

A confirmatory factor analysis conducted for perceived workplace flexibility, performance, work engagement, and digital mobility at time 1 indicated a good fit for the four-factor model (χ^2 [179] = 250.718, p<.001; χ^2 /df=1.401; CFI = .97; TLI= .96; RMSEA = .04; SRMR =.05) (see Jokisaari & Nurmi, 2009) after we allowed for correlation of error terms. In line with previous recommendations (Byrne, 2010), error terms of items 3 and 4 of perceived workplace flexibility were allowed to correlate since it appeared that the items overlapped in

[6] The fourth item: "I have sufficient flexibility in my job at [name of organization] to maintain adequate work and personal and family life balance" was dropped because of its focus on work-life balance mixing perceived flexibility and outcomes in one item. We are only interested in the development of the three core dimensions of flexibility in terms of when, where, and how.

content. For the same reason and because of potential response bias, we also correlated six of the error terms of work engagement (2 error terms of each subscale respectively), which is also in line with previous research on work engagement (e.g., Caesens, Stinglhamber, & Marmier, 2016; Schaufeli, Martínez, Salanova, & Bakker, 2002). Similar results were obtained for the other two waves albeit with a slightly poorer but still good model fit.

Control variables. We took four control variables into account, namely, gender, age, education, and tenure, which were suggested by previous research on flexibility (Hill et al., 2008).

5.3.3 Statistical Analyses

Analyses were carried out using latent growth curve modelling (LGM) (Duncan et al., 1999), which represents a variation of structural equation modeling in that it captures change over time. Change in LGM is modelled as a latent process in which at least three waves of repeated measures are treated as an indicator of an intercept and a slope factor, representing the latent variables. The intercept denotes the initial starting point and the slope the growth over time, and both, the mean structure (initial level and average growth signifying intra-individual change) and the covariance structure (inter-individual differences in initial level and in growth rate) are estimated. Intercept factors are fixed to 1 and values of the time (e.g., year, months) are both represented in the factor loading matrix. Slope and intercept are allowed to covary to investigate whether initial levels of a certain variable are related to growth over time of that variable and vice versa. Significant variance estimates of intercept and/or slope are an indication of individual differences in the respective rate of change or starting point and warrants the inclusion of covariates into the model. Latent factors between two or more variables are also allowed to covary to gain insights into the relation between two variables (Duncan & Duncan, 2009; Duncan et al., 1999; Preacher, 2010).

In carrying out our analyses, we made use of the AMOS software package version 22 (Arbuckle, 2013) and followed a 4-step procedure. We first tested for measurement invariance of perceived workplace flexibility, digital mobility, and outcome variables for each of the three measurement points and compared heteroscedastic vs. heteroscedastic error structures to derive the best fitting growth model for each variable for subsequent analyses. Second, we modelled intra-individual change over time for each of the study variables separately using univariate LGM. In particular, we examined the nature of the mean-level changes as well as individual

variation in the initial level and slope of all study variables separately over the three measurement waves. This was done by estimating both the initial mean level and the linear change of each variable (Duncan et al., 1999).

Estimation of latent factors is based on a continuous composite variable at each of the three waves. Complying with general LGM notions, the intercept factor represents a constant for each employee across time, and thus the factor loadings were fixed at 1 for each measurement point (Duncan & Duncan, 2009; Preacher, 2010). Loadings for the linear change factor were fixed to represent the metric of time. LMG is highly flexible with regard to the spacing of time and since the time between the measurement occasions was not equally spaced in our study, we adjusted the values accordingly (Byrne, 2010). In particular, coding of time was done using months (Preacher, 2010) where 0 represents the origin and 16 and 37 (months) represent the second and third measurement respectively. Loadings of both intercept and slope were applied to all subsequent analyses.

Third, associations between perceived workplace flexibility, digital mobility, and outcome variables were modelled separately (for a similar practice see Jokisaari & Nurmi, 2009) by using multivariate LGM. In so doing, the specified univariate models were combined and covariances between perceived workplace flexibility, digital mobility, and outcome variables were allowed.

Finally, we modelled perceived workplace flexibility as a time-varying covariate (TVC) (Preacher, Wichman, MacCallum, & Briggs, 2008) for each of the outcome variables separately (see Lenzenweger & Willett, 2009) following the procedure outlined by Willett and Keiley (2000) (see also Byrne, 2008). All models were tested using maximum likelihood estimation and model fit was assessed with following indices: (a) the chi-square test (Bollen, 1989), (b) the comparative fit index (CFI; Bentler, 1990), (c) the Tucker Lewis index (TLI; Bentler & Bonett, 1980), (d) the root mean square error of approximation (RMSEA, Steiger, 1990), and (e) the standardized root mean square residual (SRMR; Bentler, 1995).

5.4 RESULTS

5.4.1 Measurement Invariance

Before hypothesis testing, we examined in a first step measurement invariance, that is testing whether the same construct and associated items are the same over time (Chan, 1998).

We thereby followed the guidelines of Vandenberg and Lance (2000). We first tested for configural invariance (unconstrained model) to see whether the established 4-factor structure generalizes over time. Acceptable model fit was found (χ^2 [537] = 915.322, p<.001; χ^2 /df=1.705; CFI = .95; TLI= .94; RMSEA = .03; SRMR =.05) indicating that the items for perceived workplace flexibility, digital mobility, work engagement, and performance load onto their respective factors over the 3 waves. Thus, configural invariance was established. Next, we assessed metric invariance where factor item loadings are constrained to be equal across time. Goodness-of-fit indices resulted in good fit (χ^2 [571] = 949.227, p<.001; χ^2 /df=1.662; CFI = .95; TLI= .94; RMSEA = .03; SRMR =.05) and were contrasted to the results of the configural model. No change in CFI was found and the change in chi square ($\Delta\chi^2$ =33.905, Δdf=34) was not significant at the $p < .05$ level. Hence, metric invariance could be realized. As a final step, we also tested for scalar invariance by also setting the item intercepts to be equal across the three waves to be able to compare latent means over time. We again compared goodness-of-fit indices (χ^2 [613] = 1,109.957, p<.001; χ^2 /df=1.811; CFI = .93; TLI= .93; RMSEA = .03; SRMR =.06) with the configural model. We found a significant chi-square difference ($\Delta\chi^2$ =194.635, Δdf=76, $p < .05$) and a change in CFI (ΔCFI=.016) slightly greater than the suggested cut off point of .01 (Cheung & Rensvold, 2002). Hence, scalar invariance cannot be established as it seems that for some intercepts the meaning of the levels are not equal over time.

To further inspect this issue, we followed the recommendations of Byrne, Shavelson, and Muthén (1989) to realize partial scalar invariance. Investigating the intercept items revealed that in total five intercept items (the three for digital mobility and two for perceived workplace flexibility) demonstrated higher levels of variance across the three measurement waves. Hence, following the recommendation by Byrne et al. (1989), we removed the constraints on these items and allowed the intercepts to vary. This resulted in a well-fitting model (χ^2 [603] = 992.266, p<.001; χ^2 /df=1.646; CFI = .95; TLI= .95; RMSEA = .03; SRMR =.05) that showed that the difference in CFI (ΔCFI=.002) was now well below the suggested cut-off point of .01. The chi-square change of 76.944 ($\Delta\chi^2$ =76.944, Δdf=66, $p > .05$) was also not significant at the $p < .05$ level anymore. Hence, partial scalar measurement invariance is established (as it is often the case in this type of research, e.g., van der Werff & Buckley, forthcoming.).

While our tests have shown that the meaning of the construct for digital mobility (factor loadings) and perceived workplace flexibility is indeed the same over the three waves, the meaning of the levels of the underlying items (intercepts) is not equal across time. This

finding is particularly interesting as it may already hint at a first confirmation of our initial assumptions. One would actually expect that the "meaning of the levels of the underlying items (intercepts)" (Schoot, Lugtig, & Hox, 2012, p. 490) not to be equal for digital mobility and the two flexibility items that ask about flexibility regarding where and when employees work over the three waves, since we assume that the level of both digital mobility and when and where employees work will change over time. Hence, the meaning and interpretation of the level of digital mobility and perceived workplace flexibility is indeed assumed to change over time, since employees at time 1 do not have the same experience with digital mobility and working anywhere anytime as at time 3. For instance, at time 1, where the digitalization may not be as progressed as at time 2, the meaning of the level of digital mobility may be different. Employees may not have access to work files from home, as the corresponding interface is not in place yet. Hence, the fact that we only could establish partial scalar invariance should not restrict further analysis. In a comparable LGC study, this issue was addressed similarly (see van der Werff & Buckley, forthcoming).

5.4.2 Hypothesis Testing[7]

Table 5.1 demonstrates means, standard deviations, and correlations of the study variables at each of the three measurement points. While carrying out our analyses, homoscedastic error structure constraints (residuals of constructs constrained to be equal across measurements) were assumed for perceived workplace flexibility, performance, and work engagement and heteroscedastic error structures for digital mobility as this resulted in the best fitting model (see Table 5.2 for comparisons). With multiple measurements over time, the assumption of homoscedastic error structure may not hold true for all variables (Willett & Sayer, 1994).

[7] Control variables were not significant and did not change the outcomes of our analysis; hence, we omitted them.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Perceived workplace flexibility (T1**)**	3.55	0.69	1.00											
2. Perceived workplace flexibility (T2)	3.69	0.70	.55	1.00										
3. Perceived workplace flexibility (T3)	3.71	0.73	.47	.64	1.00									
4. Digital Mobility (T1)	3.20	0.95	.17	.19	.18	1.00								
5. Digital Mobility (T2)	3.41	0.87	.11	.18	.29	.45	1.00							
6. Digital Mobility (T3)	3.52	0.84	.12	.20	.34	.33	.59	1.00						
7. Performance (T1)	3.72	0.48	.14	.13	.06	.09	.05	.07	1.00					
8. Performance (T2)	3.73	0.52	.07	.11	.03	.10	.06	.10	.71	1.00				
9. Performance (T3)	3.73	0.53	-.00	.04	.12	.15	.16	.15	.63	.68	1.00			
10. Work Engagement (T1)	3.68	0.49	.72	.21	.12	.20	.09	.00	.47	.42	.32	1.00		
11. Work Engagement (T2)	3.64	0.49	.15	.15	.08	.18	.21	.10	.38	.44	.41	.65	1.00	
12. Work Engagement (T3)	3.62	0.50	.17	.14	.15	.20	.23	.16	.35	.36	.47	.57	.71	1.00

Note. N=273. T1 = Time 1; T2 = Time 2; T3 = Time 3. Correlations at or >0.16 are significant at p<0.01 and those at or >0.15 at p<0.05, two-tailed.

Table 5.1. Descriptive Statistics and Correlations

Variable	df	χ^2	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	Δdf
Perceived workplace flexibility								
Model 1 (homoscedastic)	3	8.327	.98	.98	.08	.02		
Model 2 (heteroscedastic)	1	4.182	.99	.96	.11	.00		
Model 1 vs. Model 2							4.145	2
Digital Mobility								
Model 1 (homoscedastic)	3	22.005	.89	.89	.15	.06		
Model 2 (heteroscedastic)	1	2.746	.99	.97	.08	.00		
Model 1 vs. Model 2							19.259***	2
Performance								
Model 1 (homoscedastic)	3	3.798	1.00	1.00	.03	.01		
Model 2 (heteroscedastic)	1	.089	1.00	1.00	.00	.00		
Model 1 vs. Model 2							3.709	2
Work Engagement								
Model 1 (homoscedastic)	3	5.232	.99	.99	.05	.02		
Model 2 (heteroscedastic)	1	.402	1.00	1.00	.00	.00	4.830	1
Model 1 vs. Model 2								

[a]Model in bold retained model. ***p<.001

Table 5.2. Goodness-of-Fit Indices and Tests of Alternative Univariate Latent Growth Models[a]

5.4.2.1 Univariate Latent Growth Curve Modelling

To determine the shape of the growth trajectories for each of our study variables, in a second step, we examined univariate latent growth curve models parameter estimates (factor means and variances) for initial status (intercept) and the change factor (slope). Results from this analysis can be found in Table 5.3. Hypothesis 1 predicted that perceived workplace flexibility increases over time. The model for perceived workplace flexibility fitted the data well (χ^2 [3] = 8.327, p<.05; χ^2 /df=2.776; CFI = .98; TLI= .98; RMSEA = .08; SRMR =.02; see Table 5.2). The initial status mean for perceived workplace flexibility is significant (estimate=3.571, p< .001) and the slope factor mean is positive and statistically significant (estimate=.004, p< .001) indicating that perceived workplace flexibility increased over time thereby supporting hypothesis 1 (see Table 5.3 and Figure 5.1). Results also indicate that the

slope and intercept of perceived workplace flexibility are not significantly associated with each other. This means that there is no difference in the rate of change in perceived workplace flexibility for employees who experienced a higher level of initial perceived workplace flexibility.

As can be taken from Table 5.2, after freely estimating the residuals for digital mobility, model fit for digital mobility was greatly improved (χ^2 [1] = 2.746, p>.05; χ^2 /df= 2.746; CFI = .99; TLI= .97; RMSEA = .08; SRMR =.00). Hypothesis 2 predicted that digital mobility would increase over the period of 37 months. Results in Table 5.3 reveal that initial status mean for digital mobility is significant (estimate=3.234, p< .001) and the slope factor mean is positive and statistically significant (estimate=.008, p< .001) indicating that digital mobility indeed increased over the course of the 37 months lending support for hypothesis 2 (see also Figure 5.1). Results further indicate that both slope and initial status are significantly negatively associated with each other (standardized estimate=-.37, p< .05). This means that employees who had greater digital mobility initially, experienced less growth in digital mobility over time than those employees who started off lower in the beginning. It also seems that there are significant individual differences in digital mobility, indicated by the significant value of the variance estimate for the slope and initial status.

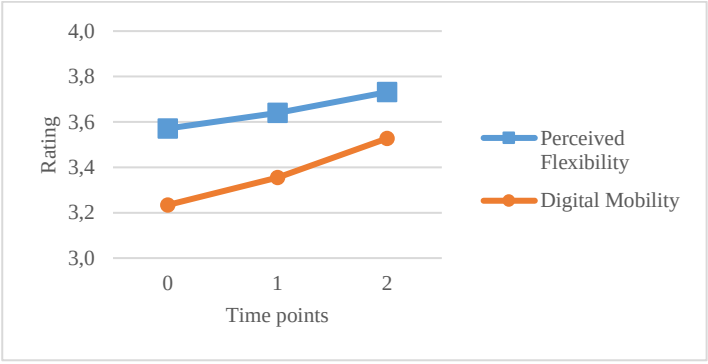


Figure 5.1. Mean Latent Growth Curves for Perceived Workplace Flexibility and Digital Mobility

Univariate models for performance and work engagement resulted in good fit, as can be taken from Table 5.2. For both outcomes variables, the mean initial status was significant (performance: estimate=3.722, p< .001; work engagement: estimate=3.674, p< .001). However, the mean growth rate for performance was not significant (estimate=.000, p> .05) and for work

engagement, the mean growth rate was significant and negative (estimate=-.002, p< .05). This means that performance did not significantly change over time and work engagement significantly decreased over time. Both outcome variables further showed significant inter-individual differences expressed by both significant variances estimates for both initial status (performance: estimate=.172, p< .001; work engagement: estimate=.172, p< .001) and slope estimates (performance: estimate=.000, p< .001; work engagement: estimate=.000, p< .001) warranting the incorporation of covariates in subsequent models (Byrne, Lam, & Fielding, 2008). For both outcome variables, slope and initial status values were not significantly correlated.

5.4.2.2 Multivariate Latent Growth Curve Modeling

In order to examine hypotheses 3-5, multivariate latent growth curve modeling was performed investigating the associations between the growth factor and initial status of perceived workplace flexibility and digital mobility and our outcome variables. In so doing, the earlier specified univariate models were combined. Hypothesis 3 predicted that change in perceived workplace flexibility is positively related to change in digital mobility over time. The model fitted the data well (χ^2 [9] = 15.542, p>.05; χ^2 /df= 1.727; CFI = .99; TLI= .98; RMSEA = .05; SRMR =.02). Results, which can be taken from Table 5.4, indeed show that the greater the rate of increase in digital mobility, the greater the rate of increase in perceived workplace flexibility and vice versa (*standardized estimate* = .37, p<.05) thereby supporting hypothesis 3. The model for the associations between perceived workplace flexibility and performance (χ^2 [11] = 18.107, p>.05; χ^2 /df= 1.646; CFI = .99; TLI= .99; RMSEA = .05; SRMR =.02) and work engagement (χ^2 [11] = 20.304, p<.05; χ^2 /df= 1.821; CFI = .99; TLI= .98; RMSEA = .06; SRMR =.03) also yielded good fit to the data. In order to interpret covariances, one must take into account the results of the univariate analysis by examining the nature of the mean change for the respective variable separately (Duncan et al., 1999). The results in Table 5.4 show that there is a positive association between the rate of increase in perceived workplace flexibility and the rate of increase in performance. However, results from the univariate analyses revealed that performance did not significantly change over time and hence, hypothesis 4 cannot be tested (see Vandenberghe, Panaccio, Bentein, Mignonac, & Roussel, 2011 for further elaboration). Hypothesis 5 predicted that changes in perceived workplace flexibility are positively related to changes in work engagement.

Parameter	Perceived Workplace Flexibility	Digital Mobility	Performance	Work Engagement
Mean initial status	3.571***	3.234***	3.722***	3.674***
Variance initial status	.282***	.455***	.172***	.172***
Mean slope	.004***	.008***	.000	-.002*
Variance slope	.000**	.000**	.000*	.000**
Covariance (slope-initial status)	-.001 (unstand.) -.144 (standard.)	-.005* (unstand.) -.371* (standard.)	.000 (unstand.) -.07 (standard.)	-.001 (unstand.) -.226 (standard.)

*p<.05, **p<.01, ***p<.001

Table 5.3. Univariate Latent Growth Model Parameter Estimates

		Perceived workplace flexibility	
		Initial Status	Change
Digital Mobility	Initial Status	.01** (.29)	.00 (.13)
	Change	-.00 (-.08)	.00* (.37)
Performance	Initial Status	.01** (.23)	-.00 (-.20)
	Change	-.00** (-.47)	.00*** (.90)
Work Engagement	Initial Status	.09*** (.39)	-.00* (-.31)
	Change	-.00 (-.26)	.00* (.47)

Note: In brackets standardized coefficients (correlations). *p<.05, **p<.01, ***p<.001

Table 5.4. Multivariate Latent Growth Model (Covariances)

Results from the univariate analysis already revealed that engagement significantly decreased over time. Results in Table 5.4 indicate that there is a positive correlation between the rate of increase in perceived workplace flexibility and the rate of decrease in work engagement (*standardized estimate* = .47, p<.05). In order to interpret this result, Vandenberghe et al. (2011, p. 665) suggested that "a negative covariance between a decreasing and an increasing change indicates a positive relationship between the two: The steeper the decline in one variable, the steeper the increase in the other." Hence, a positive covariance between an increasing change (in flexibility) and a decreasing change (in work engagement) indicates a negative relationship between the two. This means that the steeper the increase in perceived workplace flexibility, the lesser the decrease in work engagement (see Vandenberghe et al., 2011 for a similar interpretation) uncovering benign effects of perceived workplace flexibility over time thereby supporting hypothesis 5.

5.4.2.3 Perceived Workplace Flexibility as a Time-Varying Covariate

We finally examined whether changes in performance and work engagement depend on changes in perceived workplace flexibility, so determining whether those changes are conditional on perceived workplace flexibility. Table 5.5 shows the results of the analysis where perceived workplace flexibility was entered as a predictor variable for performance and work engagement. Those covariate models provided good fit to the data both for performance (χ^2 [11] = 19.985, p>.05; χ^2 /df= 1.537; CFI = .99; TLI= .99; RMSEA = .04; SRMR =.02) and work engagement (χ^2 [13] = 20.807, p>.05; χ^2 /df= 1.601; CFI = .99; TLI= .99; RMSEA = .05; SRMR =.03). Hypothesis 6 and 7 predicted that the rate of change in performance and work engagement is predicted by the rate of change in perceived workplace flexibility. Results indicate that the rate of change in performance (*standardized estimate* = .78 p<.05) and the rate of change in work engagement (*standardized estimate* = .48, p<.05) are both predicted by the rate of change in perceived workplace flexibility thereby supporting hypothesis 6. However, while the rate of change in performance was significant and positive when controlling for the rate of change in perceived workplace flexibility, the rate of change in work engagement was not significantly positive. Hence, we cannot test hypothesis 7. The finding that performance turns significantly positive and work engagement positive but insignificant once one controls for perceived workplace flexibility may raise some questions. Willett and Keiley (2000, p. 689) suggested to "(…) interpret these entries cautiously because the estimated values are conditional on the value

of the predictor (…). In other words, the estimated values of [the intercept and slope of performance and work engagement] are for those individuals who have "null" trajectories" – trajectories with zero intercept and zero slope on the time-varying covariate."

Parameter	Performance	Work Engagement	Perceived Workplace Flexibility
Mean initial status	3.170***	2.626***	3.571***
Mean slope	.02*	.00	.004***
	Prediction of Performance and Engagement from Flexibility		
Regression paths			
Intercept → Intercept	.20*	.38***	
Slope → Slope	.78*	.48*	
Intercept → Slope	-.38**	-.24	
Slope → Intercept	-.12	-.30*	

Note: regression paths estimates are standardized coefficients. *p<.05, **p<.01, ***p<.001.

Table 5.5. Parameter Estimates for Time-Varying Predictor Model

5.5 DISCUSSION

It is well-established that workplace flexibility can have both positive, negative, and zero effects on performance and well-being (Allen et al., 2015; De Menezes & Kelliher, 2011). However, the literature on workplace flexibility has been criticized for being short on longitudinal studies that may help in explaining the workplace flexibility-performance/well-being relationship. With our study, we answer those recent calls and aid in shedding light on this relation by using a multiwave latent growth curve modelling approach. In what follows, we outline the most important theoretical and practical contributions of our findings.

5.5.1 Theoretical Implications

The results of this study develop and extend theory on workplace flexibility (Hill et al., 2008) by contributing a model of change patterns of flexibility which takes into account the process of flexibility development. Hypothesis 1 predicted that perceived workplace flexibility increases over time. Our findings indeed have shown that perceived workplace flexibility is not static but rather represents a highly dynamic concept that increased over time. Our study is the first one to reveal this. Prior work on workplace flexibility (e.g., Hill et al., 2001; Hill et al., 2008;

Leslie, Manchester, Park, & Mehng, 2012; Peters et al., 2009) has treated perceived workplace flexibility as a static concept – once an organization implements flexible working practices, employees perceive this flexibility in the same manner. However, this is quite a limiting view on workplace flexibility. It entails that perceived workplace flexibility is not influenced by external stimuli, yet in a work environment that is increasingly volatile and complex (European Commission, 2010), this perspective of flexibility is quite restrictive. It is also well-established that HR practices such as flexible working practices take time to be implemented and even more time is needed until performance benefits might be realized (Wright & Haggerty, 2005). Recognizing that perceived workplace flexibility is not static affords researchers to examine important correlates of this dynamic. Specifically, in hypothesis 3 we predicted that changes in digital mobility are positively correlated with changes in perceived workplace flexibility. Latent growth curve modelling results indeed showed that increases in digital mobility over time are positively associated with changes in perceived workplace flexibility. With this finding, we make a stronger case for the connection between flexible working practices and technology. The popular press does regard advances in information and communication technology as the enabler for workplace flexibility (e.g., Baarne et al., 2010; Westerman et al., 2014); however, most empirical studies stop there and take this for granted. With our finding, we advance this idea by having illustrated that if digital mobility increases over time, the feelings of flexibility also increase. This demonstrates the importance of digitalization for experiencing high levels of perceived workplace flexibility.

Furthermore, by employing a long-term perspective of perceived workplace flexibility, our results shed light on the relationship between workplace flexibility and performance and well-being. In hypothesis 4 we predicted that changes in perceived workplace flexibility are positively related to changes in performance. However, this hypothesis was not able to be tested because performance did not significantly change over time. Results showed a positive insignificant trend for performance and further indicated that the rate of change in perceived workplace flexibility and the rate of change in performance positively and significantly covaried. These are first indicators that performance and flexibility grow in the same direction. However, future research is needed to further investigate this. To shed more light on this relation, we also included perceived workplace flexibility as a predictor of performance. Hypothesis 6 predicted that the rate of change in performance is predicted by the rate of change in perceived workplace flexibility. While interpreting these findings, it is essential to do so cautiously as the values of

performance are dependent on the values of the flexibility (Willett & Keiley, 2000). Our results have shown that, while controlling for perceived workplace flexibility, the rate of performance significantly and linearly increased over time. Furthermore, the rate of increase in perceived workplace flexibility significantly and positively predicted the rate of increase in performance over time. This finding represents a pioneering observation as it helps in resolving the flexibility-performance relation (Allen et al., 2015; De Menezes & Kelliher, 2011). In particular, this shows that performance benefits of perceived workplace flexibility can be realized but take time and cannot be readily seen. This finding emphasizes that once scholars understand perceived workplace flexibility in a dynamic manner, they will be better able to understand the flexibility-performance relationship. De Menezes and Kelliher (2011) argued that no clear business case for flexible working practices can be made yet as primarily cross-sectional research resulted in opposing findings. Based on our findings, we claim that only if scholars understand flexibility as dynamic, performance gains can be realized and hence, opens up the possibility for a business case.

Next to untangling the workplace flexibility-performance relation, the following results also shed light on the workplace flexibility-well-being relation, in particular work engagement. Hypothesis 5 predicted that changes in workplace flexibility are positively related to changes in work engagement. Results lent support for this hypothesis and have shown that the steeper the increase in perceived workplace flexibility, the lesser the decrease in work engagement over time. Hence, the rate at which work engagement decreases over time gets slower as the rate of perceived workplace flexibility increases over time. This finding is particularly interesting since it suggests that perceived workplace flexibility is able to attenuate the negative trend of work engagement in the long-term. Hence, perceived workplace flexibility does have beneficial effects on work engagement over time. We thereby contribute to previous research on the buffering effects of job resources (particularly autonomy) on work engagement (Bakker & Demerouti, 2007; Bakker, Demerouti, & Sanz-Vergel, 2014) and advance theory on the job demands-resources model and work engagement longitudinally. The downward trend of work engagement may be explained by the high initial levels of work engagement inside the organization and may have been subject to regression towards the mean.

Our results further revealed that perceived workplace flexibility and work engagement are not only positively correlated, but there are also first signs that perceived workplace flexibility functioned as a predictor of work engagement. Specifically, hypothesis 7 predicted

that the rate of change in work engagement is predicted by the rate of change in flexibility over time. While taking perceived workplace flexibility into account, the rate of change in work engagement turned out be positive but did not significantly increase over time. Thus, we were not able to test this hypothesis. Inspecting the results further however, disclosed that the rate of increase in perceived workplace flexibility significantly and positively predicted the rate of increase in work engagement over time. This finding is a first sign that perceived workplace flexibility over time does predict work engagement and that benefits of work engagement take time to be realized.

Consequently, current theoretical models of workplace flexibility (Hill et al., 2008) are advised to place digital mobility more in the center of attention as advances in digital mobility are responsible for growth in perceived workplace flexibility, which consequently may result in performance and well-being gains over time.

5.5.2 Managerial Implications

The results of the present study should be of particular interest for organizations that have already implemented a flexible working policy or that aim to do so. First and foremost, our findings demonstrate organizations the importance of digital mobility to realize and increase feelings flexibility. Becoming digital, however, takes time (Westerman et al., 2014a). That is why those organizations are advised to stay patient. It is important to manage expectations about flexible working practices and communicate clearly that until employees may perceive flexibility to the fullest, time and patience is needed. This should decrease frustration and increase understanding for why flexibility cannot be realized instantly. Second, our findings should also take off the pressure to realize performance gains right after flexible working practices have been implemented. Important to realize for organizations is also that while we studied digital mobility and perceived workplace flexibility over a period of 37 months, this does not mean that after this period the digitalization process is finished. As Westerman et al., (2014a, p. 5) put it: "The developments in the last decades are only a beginning and just a warm-up of what will come next. Robots will become more dexterous, mobile, and aware of their surroundings." Hence, to continuously derive performance effects of workplace flexibility, organizations need to keep an eye on technological changes. It is important to realize however, that we only focused on the role of digital mobility. Prior research has uncovered, for instance, the important role of

managerial and co-worker support for being able to work flexibly and hence, these factors should not be disregarded.

5.5.3 Limitations and Future Research

This research is subject to a few limitations and affords several avenues for future research. First, due to organization-specific reasons, unequal time intervals of 16 and 37 months after the introduction of flexible working practices were taken. While intervals of over three years is a common practice to examine the implementation of HR policies (Wright & Haggerty, 2005), unequal time intervals may have biased comparability between the years. Hence, future research is directed to equally space measurement points to allow for greater comparability of the years.

Second, due to organizational resource constraints, we were only able to use self-reported data for perceived workplace flexibility, digital mobility, and outcome measures. Common method bias can thus be not excluded. Future research is therefore advised to gather data from multiple sources, such as manager ratings for performance. Finally, since we only collected data over three waves, we were not able to test for curvilinear effects of perceived workplace flexibility, digital mobility, and outcome variables (see Lenzenweger & Willett, 2009; Preacher, 2010). To test for quadratic effects, one needs at least four measurement points; to test for cubic effects, one needs at least five measurement points (Preacher, 2010). Hence, we were only able to test for linear growth. Future research is therefore directed to collect at least four measurement points to test for non-linear effects. Doing so also allows future research to obtain insights into the notion of entitlement. An often made claim about HR policies in general is that employees, whose contract formally allows them to make use of a certain policy, feel over time entitled to it, which reduces their need to reciprocate leading to negative outcomes (De Menezes & Kelliher, 2016; Lewis & Smithson, 2001). While feelings of entitlement may not have developed strongly in the course of 37 months since it takes about 3 years until a HR policy is fully implemented (Wright & Haggerty, 2005), they may do so after this time span and potentially alter outcomes. Hence, it is important to further inspect this in future research endeavors.

Possibilities for future research lie also in the following: While our study focused exclusively on the development of feelings of perceived workplace flexibility, prior studies also

looked into the relation of usage of flexibility and availability of flexibility (Allen et al., 2013). Hence, it may be interesting to investigate whether usage of flexibility also develops over time and potentially correlates with digital mobility. There also exist great ambiguities regarding the relation between flexibility and work – life balance (Allen & Shockley, 2009). A more dynamic view on perceived workplace flexibility might also shed light on those opposing findings. Another avenue for future research lies also within testing the long-term relationship between perceived workplace flexibility and work engagement further. Since we failed to demonstrate a significant increase in work engagement over time (once we controlled for flexibility) due to potential initial high levels of work engagement, future research is needed to shed more light on this relation. It would be interesting to investigate the effects of perceived workplace flexibility on work engagement if initial levels of work engagement are rather low. If initial levels of work engagement are rather low, perceived workplace flexibility can have a bigger impact on the rate of change in work engagement. Furthermore, since our results have shown that digital mobility is related to flexibility, and flexibility is related to performance, it might be plausible to assume an indirect relation between digital mobility and performance/or work engagement over time (via perceived flexibility). Future studies are advised to take those mediating mechanisms into account.

Finally, while we only looked at the enabling role of digital mobility, other factors such as organizational and co-worker support and organizational climate, which were suggested by previous cross-sectional research (Bal & Jansen, 2016) may also develop over time and contribute positively to experiences of flexibility and hence, present another possible avenue for future research.

5.6 CONCLUSION

In order to tackle the relationship between workplace flexibility and performance and workplace flexibility and well-being, scholars need to understand perceived workplace flexibility as a dynamic concept that changes over time along with increases in digital mobility. Such a dynamic perspective of perceived workplace flexibility allows performance and well-being gains to be realized but they take time.

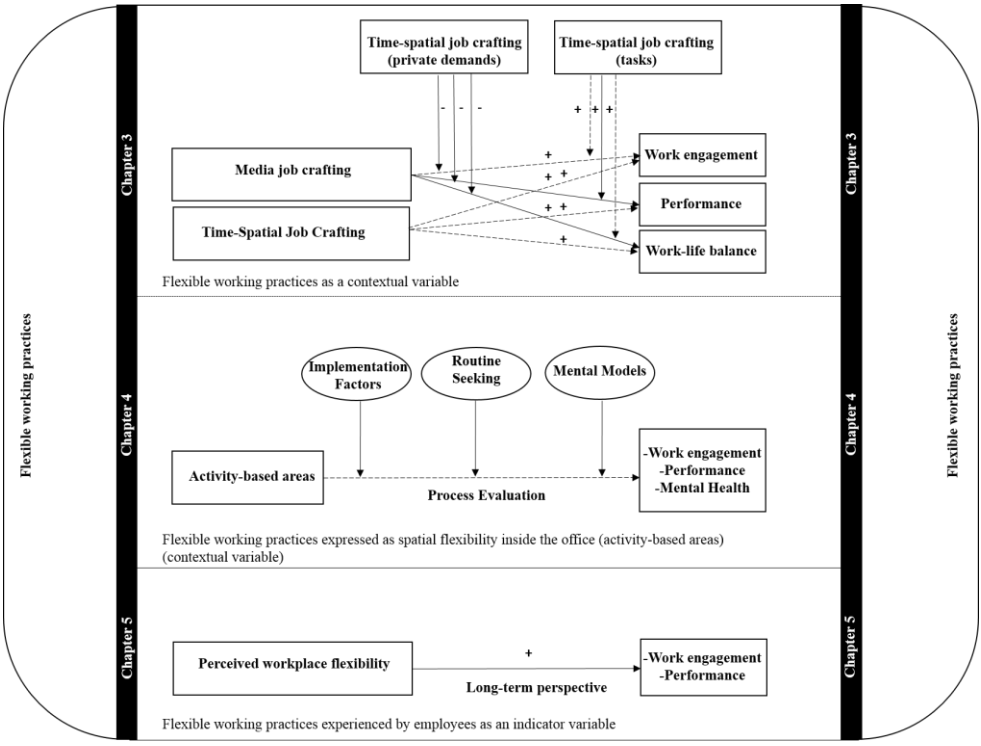
Chapter 6

General Discussion

The purpose of this dissertation was aimed at furthering our understanding of the relationship between flexible working practices and performance and flexible working practices and well-being. A flexible working policy allows employees to determine where they work, when they work, and how they work. Even though flexible working practices enjoy great popularity among knowledge work organizations, the effects of such practices on performance and well-being remain poorly understood. Opposing results for performance and well-being typify the research landscape, producing a lack of understanding of whether and how employees and their organizations can reap the benefits of flexible working practices. These shortcomings were a major motivation behind this dissertation, which examined ***how flexible working practices influence performance and work engagement*** (work-related well-being). The dissertation studied this research question by means of one conceptual piece of work and three empirical studies with a daily perspective, experimental perspective, as well as a long-term perspective regarding flexible working practices as a contextual or indicator variable. Thereby, literature on work design (job crafting) was integrated with literature on occupational stress (work engagement), information systems (media theories), and office design (physical work environment). This allows to understand the effects of flexible working practices from multiple standpoints providing a more nuanced view.

Overall, the results of this dissertation (a) revealed that employees themselves need to become proactive in the form of time-spatial job crafting and media job crafting if they want to reap the benefits of flexible working practices (Chapter 2 and Chapter 3) (b) emphasize that understanding the effects of increases in spatial flexibility inside the office building (activity-based areas) for performance and health outcomes requires to take on a process evaluation approach (Chapter 4) (c) uncovered that perceived workplace flexibility positively relates to

work engagement and predicts performance over time; thereby this dissertation presented a model of flexibility development that enables employees to reap performance and work engagement benefits over time (Chapter 5). Figure 6.1 summarizes those key findings (from empirical studies) where flexible working practices are represented either as a contextual variable or indicator variable. I summarize the main findings of this dissertation below and discuss their main theoretical and practical contributions.



Note: Dotted lines represent non-significant relations

Figure 6.1. Summary of Key Research Findings

6.1 SYNOPSIS OF MAIN FINDINGS AND THEORETICAL CONTRIBUTIONS

Chapter 2 sheds light on the research question from a conceptual point of view. In particular, chapter 2 proposes that the relationship between flexible working practices and performance, and flexible working practices and work engagement is more positive when employees engage in time-spatial job crafting. Flexible working practices have been understood mainly as a top-down approach to work design (cf. Humphrey, Nahrgang, & Morgeson, 2007). This chapter has shown that in order for employees and their organizations to gain the most from time-spatial flexibility, a bottom-up approach to work-design is needed. Job crafting – proactive behavior by employees – has been acknowledged as a fruitful bottom-up approach to work design. To add to and extend literature on work design (Morgeson & Humphrey, 2008) and job crafting (Tims et al., 2012; Wrzesniewski & Dutton, 2001) to the context of flexible working practices*, time-spatial job crafting* was introduced as a context-specific form of job crafting.

In particular, time-spatial job crafting was set forth as a form of self-regulatory behavior (Higgins, 1987) describing the extent to which employees reflect on specific work tasks and private demands, actively select workplaces, work locations, and working hours, and then potentially adapt the place/location of work and working hours or tasks and private demands to ensure that they are still a fit. This fit was termed a *time–spatial fit,* which refers to the degree to which a given choice of work locations, work places, and times assists employees in performing their work tasks and managing private demands during a particular workday. This chapter posited that in order for employees to stay well, productive, and to keep their work-life balance, they need to find a time-spatial fit and time-spatial job crafting represents a strategy that helps employees in doing so. Time-spatial fit was proposed as a mediator and time-spatial job crafting as a moderator. Thereby, Chapter 2 followed up on calls to incorporate moderators and mediators into flexibility research (De Menezes & Kelliher, 2011). Overall, this chapter emphasizes the role of employees themselves in reaping the benefits of flexible working practices.

Chapter 3 investigates the research question through the daily perspective and tested the notion of time-spatial job crafting. This chapter also extended the idea of job crafting further to the context of media usage and introduced the term *media job crafting*, which refers to the extent to which employees try to match communication media with the message they want to

bring over. In this chapter we have learned that if employees engage in daily media job crafting, they are able to boost their own performance and it helps them to achieve a balance between work and life on a day-to-day basis; yet this did not lead to improvements in work engagement. Daily task-related time-spatial job crafting has shown to only marginally influence work engagement and work-life balance on a day-to-day basis; the relation with performance was way above the cutoff point of .05. While daily time-spatial job crafting related to private demands and daily media job crafting can be seen as strategies that employees can use both together during a particular working day, the results of this chapter illustrated that if employees are low in daily media job crafting, they can experience higher engagement, performance, and work-life balance when they are high in daily time-spatial job crafting related to private demands. However, if they are already high in daily media job crafting, a high level of daily time-spatial job crafting related to private demands does not lead to higher engagement, performance or work-life balance. Hence, it seems that daily time-spatial job crafting related to private demands only makes a difference if daily media job crafting is low. Since this chapter investigated the effects of time-spatial job crafting and media job crafting on a day-to-day basis, it may be that this result is situation or location-specific; so for instance if employees worked from the office on a certain day, it is likely that a lower usage of media job crafting is needed than if they worked from home as they possibly need to use communication media more heavily. The main contribution of this chapter is that the results add to and extend the emerging literature on job crafting (Demerouti & Bakker, 2014; Wrzesniewski & Dutton, 2001). By testing and introducing time-spatial job crafting and media job crafting, the notion job crafting is extended to the time and spatial aspects of work and to communication media usage thereby integrating job crafting with literature on media theories (Dennis et al., 2008).

Chapter 4 examined the research question from an experimental point of view and zoomed into one particular aspect of spatial flexibility namely activity-based areas. The results of Chapter 4 show that performance and health outcomes are zero if employees do not make use of the increase in flexibility inside the office environment. While the finding that activity-based areas did not change performance and health outcome is consistent with past work on office redesign (see De Croon, Sluiter, Kuijer, & Frings-Dresen, 2005 for a review), this chapter moved beyond this result by offering insights into success/hindrance factors by adopting a process evaluation approach. In particular, results of the process evaluation revealed that choosing not to change workplaces was on the one hand driven by prevailing mental models

related to spatial flexibility held by employees. Not making use of the increase in flexibility was both individually and socially enacted. Employees displayed preferences for certain workplaces and deemed switching between workplaces as too time-consuming and costing too much effort. Findings also revealed that employees tried to remain close to their colleagues by reserving workplaces. Hence, knowledge workers rationalized not making use of the increase in flexibility as a means to adhere to their need for routine-seeking. On the other hand due to the relative negligence of important implementation factors such as employee involvement and the central role of middle managers in the intervention process, employees did not make use of this increase in flexibility. Especially middle managers can act as active change agents that shape organizational processes (Nielsen & Randall, 2013) and can help in sense-making in particular when employees are unfamiliar with working in the new environment.

By uncovering process-related intervention factors, this chapter advances our understanding of underlying motives (hindrance and facilitating factors), which previous accounts of office redesign and health and performance did not take into account. Taken together, this chapter thereby adds to the literature on organizational routines (Becker, Lazaric, Nelson, & Winter, 2005), office redesign (De Croon et al., 2005), and process evaluations (Nielsen & Randall, 2013), and underlines next to the role of the employees, also the critical role of middle managers in reaping the benefits of flexible working practices (activity-based areas in particular).

Chapter 5 answers the research questions by relying on a longitudinal perspective. In this chapter we have learned that the influence of flexible working practices on performance and work engagement is positive if organizations allow sufficient time to elapse since the initial uptake of this practice. Our findings show that perceptions of workplace flexibility are not static but are dynamic and increase over time. This increase in flexibility is associated with changes in digital mobility. This finding thereby makes a strong case for the connection between increases in flexible working practices and increases in technology and demonstrates the importance of digitalization for perceptions of high levels of workplace flexibility. The results of this chapter thereby develop and extend theory on workplace flexibility (Hill et al., 2008) by contributing a model of change patterns of flexibility which takes into account the process of flexibility development. Furthermore, outcomes of this chapter also indicate that changes in workplace flexibility are positively related to changes in work engagement and predict changes in

performance over time. This illuminates that performance and work engagement benefits can be achieved but it may take a sufficient amount of time until those gains can be realized.

The respective result of flexible working practices and work engagement deserve special attention. Over the 37 months, scores for work engagement decreased. Despite this downward trend, results show that the steeper the increase in perceived workplace flexibility, the lesser the decrease in work engagement. This suggests that perceived workplace flexibility is able to attenuate the negative trend of work engagement in the long-term. Hence, perceived workplace flexibility appears to have beneficial effects on work engagement over time. This discovery thereby contributes to previous research on the buffering effects of job resources (particularly autonomy) on work engagement (Bakker & Demerouti, 2007; Bakker, Demerouti, & Sanz-Vergel, 2014) and advances theory on the Job Demands-Resources model and work engagement longitudinally. Overall, the outcomes of this chapter suggest that once scholars and organizations understand perceived workplace flexibility in a dynamic manner, they will be better able to understand the flexibility-performance and flexibility-well-being relationship.

Taken together, the results of the four chapters have illustrated that understanding the effects of flexible working practices for performance and well-being requires taking into account certain contingency factors.

First, the results of these chapters have pinpointed at the important *role of time* in flexibility research. In contrast to the hitherto overreliance on using a single point in time in flexibility research (Allen et al., 2015; De Menezes & Kelliher, 2011), short (Chapter 3), mediocre (Chapter 4), and long (Chapter 5) time intervals have suggested to be indispensable in flexibility research. Incorporating the role of time allowed to understand within-person and between-person differences of flexible working practices and revealed that the effects of flexible working practices can both fluctuate on a day-to-day basis and are enduring in the long-term. Hence, flexible working practices can be considered a "sustainable practice" in the long-term (cf. Allen et al., 2015) but are also subject to episodic changes. These findings provide researchers with a more nuanced understanding of flexibility and hence, in further examining flexibility outcomes, time should become an important aspect on research agendas.

Second, the chapters have uncovered the crucial *role of the individual flex worker*. To achieve positive outcomes of flexibility practices, current theorizing efforts may benefit from taking on a bottom-up approach in which the focus shifts towards the individual employee. Focusing on the individual employee has contributed to a greater understanding of flexibility

effects. Proactivity on part of the employee (Chapter 2, Chapter 3), individual mental models (Chapter 4) and individual perceptions of flexibility (Chapter 5) have shown to be key in reaping the benefits of flexible working practices. Thereby, this research represents an important step forward in understanding how to negate potential pitfalls of flexible working practices.
Hence, to further advance our understanding, future research is directed to paying attention to what employees themselves can do.

Third, the chapters emphasized the *role of organizational aspects* in reaping the benefits of flexible working practices. Our results have shown that individual flex workers function within the boundaries of organizations in which individual flex workers make flex working decisions in conjunction with the social context (Chapter 4), depend on their manager (Chapter 4), and on technology (Chapter 5) for flexible working to work and to perceive the benefits of flexible working practices. Hence, these findings corroborate earlier research on flexibility in that organizational aspects must be taken into account but that those are also important in the light of different time intervals.

Overall, all of these factors have shown to be individually necessary but can never alone be sufficient to understand the effects of flexible working practices and performance, and flexible working practices and work engagement. Every factor in its own is necessary but not sufficient to provide a holistic view of the effects of flexible working practices.

6.2 MANAGERIAL IMPLICATIONS

The findings of this dissertation offer some valuable insights for organizations that already implemented flexible working practices and for those organizations that have not yet implemented such practices.

For organizations that offer their employees already some degree of discretion over when, where, and how to work, an important take-away from this dissertation is that performance and well-being benefits through flexible working practices can be achieved. In light of uncovering the proactive role of employees themselves in reaping performance and work engagement gains in Chapter 2 and 3, organizations are advised to create awareness for this. Managers shall ideally support employees by allowing them to engage in job crafting behavior. Awareness can for instance be created through workshops or by means of a job crafting intervention in which employees learn about job crafting and subsequently practices

job crafting. The research of van den Heuvel, Demerouti, and Peeters (2012) may be a helpful resource here as it illustrates how such an intervention may look like. While job crafting has shown to be an important handle for employees to capitalize on flexible working practices, managers themselves are also flex workers and hence, they themselves can also make use of this context-specific type of job crafting and may act as a role model in this regard. For both, employees and managers, these results also imply that they should be lenient with themselves when engaging in time-spatial job crafting or media job crafting. On the one hand Chapter 2 pointed out that job crafting as such may be an activity strenuous in itself, and it may take time until employees can make choices with less effort. On the other hand the results of Chapter 5 illustrated that perceived performance gains take time and cannot be immediately seen, which should enable managers and employees to create better expectations regarding when to expect benefits of flexible working practices.

For organizations as a whole the results from Chapter 5 should take off the pressure to realize performance and well-being gains right away and teaches them to remain patient until performance and well-being effects can be realized. Since technological refinements have shown to increase feelings of flexibility, organizations are advised to check whether refinements to their technologies in-use can be made. This of course does not mean that IT investments are the only source through which feelings of flexibility can be increased as discussed in Chapter 5. As previous research demonstrated, equally important is the organizational culture as well as managerial and co-workers support for working flexibly.

For organizations that have not yet implemented flexible working practices, the ambiguous results from prior research regarding performance, well-being, and, work-life balance may question the usefulness of this practice. Why would an organization want to invest in flexible working practices if the benefits of such practices are unclear? The findings of this dissertation should encourage organizations to do so, as the chapters in this dissertation have illustrated that performance, work engagement, and work-life balance benefits can be achieved if certain contingency factors are taken into account. Time-spatial job crafting, media job crafting, process factors, and patience are critical in order to make the usage of a flexible working policy a success.

While the results of this dissertation should be of prime interest for knowledge work organizations whose nature of the job makes flexible working practices possible, they are not bound to these. Particularly the usage of different communication media is not only bound to

knowledge work organizations but also permeates other occupations. In this context, especially the concept of media job crafting should also be of help to employees who frequently need to interact with clients and colleagues through means of various communication channels.

6.3 LIMITATION

While every study in this dissertation has its own limitation, one overarching limitation can be found across the three empirical studies, which has important implications for those seeking to build on this dissertation. This dissertation yielded insights into the relation between flexible working practices and performance. The literature has shown that performance is measured in different ways. As previously reported, notions of job performance range from treating it in terms of absenteeism (Schaufeli et al., 2009), turnover intentions (Schaufeli & Bakker, 2004), in-role performance (Halbesleben & Wheeler, 2008), extra-role performance (Gierveld & Bakker, 2005), financial returns (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) or customer satisfaction (Salanova et al., 2005). This multifariousness makes it increasingly difficult to distinguish between the various effects on job performance.

Due to the dissertations' resources, performance was only able to be measured using a self-assessed productivity measure. Many studies in the area of flexible working practices rely on perceived performance measures (see De Menezes & Kelliher, 2011), and thus this dissertation contributes to a better understanding of the effects of flexible working practices and perceived performance. However, perceived performance only represents one aspect of performance, and by solely concentration on this type of performance, no overall conclusion can be drawn. It is critical to realize however that there exists no universal measure of performance, and hence, also future studies will only be able to give insights into certain aspects of performance.

6.4 IMPLICATIONS FOR FUTURE RESEARCH

While it remains difficult to measure performance, future studies are nevertheless advised to incorporate and assess different kinds of performance to provide a more nuanced view on the effects of flexible working practice and performance. From both a theoretical and practical standpoint, it would be interesting to advance our understanding regarding the relation

of flexible working practices and inter-subjectively assessed performance. For instance, do managers also perceive that employees are more productive if they engage in media/time-spatial job crafting? To assess this, an intervention study may be the preferred method (e.g., quasi experiment or randomized controlled trial if possible) in which performance measures are taken before and after a job crafting intervention. Chapter 5 illustrated the positive gains of perceived flexibility and perceived performance in the long-term. I recommend researchers to link long-term effects of perceived flexibility to other measures of performance such as supervisor-ratings, turnover intentions or sick leave data to obtain a more nuanced view on the longitudinal consequences. Time-frames of at least three years may be advisable to use as those intervals have been shown to be needed to examine the effects of HR policies in general (Wright & Haggerty, 2005).

The studies in this dissertation did not distinguish between functional positions; they were all concerned with *employees*. I therefore recommend future research to focus on a distinct group of people such as middle managers to obtain critical insights into differences between functions in organizations. Furthermore, the testing of the assumptions laid down in this dissertation relied heavily on the usage of quantitative research methods (except for Chapter 4). It may also be interesting to take on a more qualitative approach to yield further insights into the notion of time-spatial job crafting and media job crafting in particular. In this respect, Chapter 2 proposed certain intricacies to time-spatial job crafting. Interviews may shed light on the suggested trade-offs and especially a long-term case study enables to test proposition 5 in Chapter 2. Finally, research is advised to incorporate the role of time in future flexibility research endeavors.

6.5 CONCLUDING REMARKS

I started this dissertation with an observation about the shift in the nature of work. Advances in technology removed temporal and spatial boundaries and resulted in the fact that employees in the 21st century work increasingly from the flexible and virtual office. A climax of this scenario would be that employees in the future, no longer have *an* office adding another layer of flexibility. The increasing usage of co-working spaces (Deskmag Coworking survery, 2016), in which employees work together in shared public spaces, may be a first sign of this trend (Razin, 2016). I feel that the results of this dissertation may then even be more critical as they underscore the importance of *employees themselves* in reaping benefits for their own performance and engagement. Yahoos' recent ban of the virtual office, however, and its return to the physical office, may counter this development. Whether having no office altogether is a realistic future scenario remains yet to be seen. No matter the direction work and workplaces will head to, this dissertation represents an important step forward in understanding that flexibility benefits are actually possible and I hope that with these results, organizations feel better equipped to make the most of workplace flexibility — whichever direction it may take.

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Summary

Technological developments such as the advent of laptops, mobile devices, and related new communication channels (e.g., social and business networks, instant messaging programs) enabled the uptake of flexible working practices in knowledge work organizations. A flexible working policy allows employees to determine where they work (spatial flexibility often referred to as telework), when they work (temporal flexibility, for instance flexi-time), and how they work. Even though flexible working practices enjoy great popularity among knowledge work organizations, the effects of such practices are poorly understood. From research findings so far, a clear case for flexible working practices cannot be made, as studies have shown that flexible working practices lead to positive, negative, and zero effects for performance and well-being. Hence, organizations, scholars, and employees are left behind with these equivocal findings producing a lack of understanding of whether and how employees and their organizations can reap the benefits of flexible working practices. In the current dissertation I advance this research by (a) using a combination of empirical and conceptual research, (b) applying and integrating multi theoretical perspectives, and (c) using multi methods. In particular, in this dissertation I propose that successful utilization of flexible working practices entails proactivity in the form of time-spatial job crafting. Time-spatial job crafting can be regarded as a form of self-regulatory behavior and refers to the extent to which employees reflect on specific work tasks and private demands, actively select workplaces, work locations, and working hours, and then potentially adapt the place/location of work and working hours or tasks and private demands. This dissertation posits that in order for employees to stay well, productive, and to keep their work-life balance, they ideally engage in time-spatial job crafting. Furthermore, in this dissertation I propose that flexible employees ideally engage in media job crafting in order to reap the benefits of flexible working on a day-to-day basis. Media job crafting

refers to the extent to which employees try to match communication media with the message they want to bring across. The results of this dissertation show that employees can retain their work-life balance and stay productive if they engage in media job crafting. Hence, both time-spatial job crafting and media job crafting can be seen as strategies that employees themselves can use to remain productive, engaged, and to keep their work-life balance. The findings of this dissertation furthermore show that employee's need for routine seeking is a potential reason for why performance and well-being outcomes did not change after an office redesign intervention (move to activity-based areas). Prevailing mental models (e.g., personal preferences regarding workplaces, perceived benefits of different workplaces) and the relative negligence of paying attention to implementation factors such as the crucial role of middle managers contributed to the fact that employees did not make use of the increase in spatial flexibility inside the office and held on to 'old routines'. Thus, the results of this dissertation thereby explain under which conditions spatial flexibility does not lead to improvements and uncovers the important role of process factors. For organizations, the results of this dissertation may advise them to be patient when it comes to flexible working practices. In this dissertation we have learned that the influence of flexible working practices on performance and work engagement is positive if organizations allow sufficient time to elapse since the initial uptake of this practice. Our findings show that perceptions of workplace flexibility are not static but are dynamic and increase over time. This increase in flexibility is associated with changes in digital mobility and changes in workplace flexibility are positively related to changes in work engagement and predict changes in performance over time.

Samenvatting (Dutch Summary)

Ontwikkelingen in technologie zoals het gebruik van laptops, mobiele telefoons en andere communicatiemiddelen hebben een toename van flexibel werken in kennisintensieve organisaties mogelijk gemaakt. Flexibel werken zorgt ervoor dat werknemers zelf kunnen bepalen waar ze werken (ruimtelijke flexibiliteit, bijvoorbeeld telewerken), wanneer ze werken (temporele flexibiliteit met betrekking tot werktijden), en hoe ze werken. Hoewel flexibel werken grote populariteit onder kennisintensieve organisaties geniet, is het vaak niet duidelijk welke effecten flexibel werken sorteert. Wetenschappelijke studies hebben tot nu toe nog geen duidelijk beeld opgeleverd over de effecten van flexibele werkvormen; studies hebben aangetoond dat flexibele werkvormen kunnen leiden tot zowel positieve, negatieve als geen effecten voor prestaties en welzijn. Organisaties, wetenschappers en werknemers en werkgevers blijven daardoor met een scala aan dubbelzinnige resultaten en een gebrek aan kennis zitten met betrekking tot de vraag hoe werknemers en organisaties de vruchten kunnen plukken van flexibele werkvormen. In dit proefschrift maak ik daartoe gebruik van een combinatie van (a) empirisch en conceptueel onderzoek, (b) het toepassen en integreren van verschillende theoretische benaderingen en (c) het gebruik van verschillende onderzoeksmethoden. In het bijzonder, stelt dit proefschrift voor dat het succesvol gebruik van flexibele werkvormen neerkomt op pro-activiteit in het vormgeven van werk in tijd en plaats ('time-spatial job crafting'). Het vormgeven van werk in tijd en plaats kan worden beschouwd als een vorm van zelfregulerend gedrag en verwijst naar de mate waarin medewerkers 1) reflecteren op bepaalde werktaken en privévereisten, 2) actief de werkplek, werklocatie en werkuren kiezen en 3) mogelijk de werkplek, werklocatie en werkuren of taken afstemmen op de privé situatie. Deze dissertatie toont aan dat als medewerkers productief en gezond willen blijven en hun werk en privéleven in balans willen houden, ze

idealiter gebruik maken van het vormgeven van werk in tijd en plaats. Verder stelt dit proefschrift voor dat flexibele medewerkers idealiter gebruik maken van het vormgeven van werk door media gebruik ('media job crafting') om zo te kunnen profiteren van de voordelen van flexibele werkvormen op dagelijkse basis. Het vormgeven van werk door media gebruik is de mate waarin werknemers proberen om het medium en de boodschap op elkaar te laten aansluiten. De resultaten uit dit proefschrift laten zien dat medewerkers die gebruikmaken van het vormgeven van werk door media gebruik productiever zijn en een betere werk-privé balans hebben. Hieruit kunnen we concluderen dat zowel 'time-spatial job crafting' als 'media job crafting' strategieën zijn die medewerkers kunnen toepassen om productief en gezond te blijven en om een goede werk-privé balans te houden. Verder laten de resultaten uit dit proefschrift zien dat de behoefte aan routine een mogelijke verklaring is voor het feit dat prestatie en welzijn niet altijd automatisch veranderen nadat men is overgestapt op flexibel werken (activiteit gerelateerde werkplekken). Heersende mentale modellen (bijvoorbeeld omtrent persoonlijke voorkeuren qua werkomgevingen en verwachte voordelen van de verschillende werkomgevingen) en de relatieve nalatigheid van implementatiefactoren zoals de essentiële rol van de directe manager hebben aangetoond dat medewerkers geen gebruik hebben gemaakt van de toename in ruimtelijke flexibiliteit op de werkvloer. De resultaten van dit onderzoek laten zien welke procesfactoren van belang zijn bij het implementeren van ruimtelijke flexibiliteit. Onze bevindingen tonen tevens aan dat het een aanzienlijke tijd kan duren voordat werknemers flexibiliteit volledig ervaren (tot 37 maanden) en dat deze toename in het gevoel van flexibiliteit overeenkomt met veranderingen in digitale mobiliteit. Verder geven de resultaten aan dat veranderingen in werkplekflexibiliteit positief gerelateerd zijn aan veranderingen in bevlogenheid en prestaties.

Zusammenfassung (German Summary)

Technologische Entwicklungen wie z.B. die Erfindung von Laptops, mobilen Endgeräten und damit verbundenen neuen Kommunikationskanälen (z.B. soziale und Business Netzwerke, Instant Messenger) haben zu einer vermehrten Auflösung von räumlichen und zeitlichen Grenzen von Arbeit geführt und ermöglichen somit eine zunehmende Flexibilisierung von Arbeitsformen.

Flexible Arbeitsformen erlauben es Beschäftigten, ihre Arbeit zeit -und ortsunabhängig auszuführen (zeitliche Flexibilität: z.B. Gleitzeit, räumliche Flexibilität: z.B. Telearbeit). Wenngleich diese flexiblen Arbeitsformen ansteigende Popularität und Verbreitung unter sogenannten Wissensorganisationen gewinnen, können bis jetzt keine belastbaren Schlüsse bezüglich der Auswirkungen von solch neuen Arbeitsformen auf die Produktivität und das Wohlbefinden von Mitarbeiterinnen und Mitarbeitern gezogen werden. Bisherige wissenschaftliche Auseinandersetzungen mit dem Thema haben gezeigt, dass ein klarer „Business Case" für flexible Arbeitsformen bislang nicht gemacht werden kann. Empirische Studien haben sowohl positive als auch negative Folgen für die Produktivität und das Wohlbefinden von Wissensmitarbeiterinnen und Wissensmitarbeitern nachgewiesen; ebenso wurden sogenannte „null" Effekte festgestellt. Dieser Heterogenität an empirischen Ergebnissen hat der bisherige wissenschaftliche Diskurs wenig Beachtung geschenkt und infolgedessen bleibt es gänzlich ungeklärt, ob und wie Wissensmitarbeiterinnen und Wissensmitarbeiter und ihre Organisationen von den positiven Aspekten flexibler Arbeitsformen im Sinne höherer Produktivität und Wohlbefinden profitieren können.

Die vorliegende Dissertation widmet sich dieser Fragestellung und kombiniert dabei empirische und konzeptuelle Forschung, wendet an und integriert multiple theoretische Perspektiven und bedient sich dabei mannigfaltiger Methoden.

Zum einen wird in der vorliegenden Dissertation postuliert, dass die erfolgreiche Nutzung von flexiblen Arbeitsformen Proaktivität in Form von „Time-Spatial Job Crafting" von den Beschäftigten erfordert. "Time-Spatial Job Crafting" kann als selbstregulierendes Verhalten verstanden werden und bezieht sich auf das Ausmaß, zu dem Mitarbeiterinnen und Mitarbeiter über bestimmte Arbeitsaufgaben und private Anforderungen reflektieren, aktiv Arbeitsplätze, Arbeitsorte und Arbeitszeiten auswählen und, falls erforderlich, Arbeitsplätze, Arbeitsorte und Arbeitszeiten oder Aufgaben und private Anforderungen anpassen.

Die Dissertation unterstreicht, dass durch "Time-Spatial Job Crafting" Beschäftigte ihre eigene Produktivität, ihr Wohlbefinden sowie ihre persönliche Work-Life Balance positiv beeinflussen können. Neben "Time-Spatial Job Crafting" stellen die Resultate der durchgeführten Tagebuchstudie mit 56 Beschäftigten und 5 Erhebungszeitpunkten heraus, dass die Belegschaft sich ebenfalls des sogenannten "Media Job Crafting" bedienen sollte.

"Media Job Crafting" bezieht sich auf das Ausmaß, zu dem Mitarbeiterinnen und Mitarbeiter versuchen, bestimmte Kommunikationsmittel zur Art der Nachricht, die sie übermitteln wollen, anzupassen. Dies hat zur Folge, dass Beschäftigte, wenn sie tagtäglich flexibel arbeiten, produktiv bleiben können und zugleich eine gute Work-Life Balance vorweisen. Demzufolge können beide Arten von Job Crafting als Strategien angesehen werden, die es den Beschäftigten ermöglicht, von flexiblen Arbeitsformen zu profitieren.

Zum anderen zeigen die Ergebnisse eines Quasi-Experiments (Experimentalgruppe n=112, Kontrollgruppe n=112) der vorliegenden Dissertation auf, dass „null" Effekte von zunehmender räumlicher Flexibilität in Büroräumen durch das Bedürfnis nach Routine erklärt werden können. Nach dem Umzug in einen aktivitätsorientierten Büroraum (Arbeitsplätze sind angepasst an funktionale Aspekte der zu bearbeitenden Aufgabe wie z.B. stille Räume, Standardarbeitsplätze, Besprechungszonen; non-territoriale Benutzung), sind Mitarbeitereinschätzungen bezüglich ihrer eigenen Produktivität, Wohlbefinden und mentalen Gesundheit unverändert geblieben. Vorherrschende sogenannte „mentale Modelle" bezüglich des aktivitätsorientierten Büroraumes (z.B. persönliche Präferenzen für Arbeitsplätze, wahrgenommene Vorteile der verschiedenen Arbeitsplätze) sowie die relative Missachtung wichtiger Implementierungsfaktoren wie z.B. die kritische Rolle des mittleren Managements

und der Mitarbeiterinvolvierung haben dazu geführt, dass Beschäftigte die höhere Flexibilität innerhalb des Büroraumes nicht genutzt haben und somit an ‚alten Routinen' festgehalten haben. Durch dieses Forschungsergebnis wird deutlich, dass es gewissen Prozessfaktoren Beachtung zu schenken gilt und es wird zugleich verdeutlicht, unter welchen Bedingungen Flexibilität zu keiner Veränderung in abhängigen Variablen führt.

Darüber hinaus raten die Ergebnisse der vorliegenden Dissertation Wissensorganisationen an, Langmut bezüglich der Implementierung von flexiblen Arbeitsformen aufzubringen. Mithilfe einer längsschnittlichen Fragebogen-Studie über einen Zeitraum von 37 Monaten mit einer Stichprobe von 273 Beschäftigten und 3 Erhebungszeitpunkten konnte nachgewiesen werden, dass positive Effekte in Produktivität und Wohlbefinden erzielt werden können, wenn Organisationen nach der Einführung flexibler Arbeitsformen ausreichend Zeit zur Entwicklung verstreichen lassen.

Insbesondere haben die Resultate gezeigt, dass wahrgenommene zeitliche und räumliche Flexibilität nicht statisch sondern dynamisch sind und über den Zeitraum von 37 Monaten zugenommen haben. Diese Zunahme an erlebter Flexibilität geht mit der Zunahme an digitaler Mobilität einher, korreliert positiv mit dem Wohlbefinden und wirkt sich auf lange Sicht positiv auf die Produktivität von Mitarbeiterinnen und Mitarbeitern aus.

Appendix A

A1. Propensity Score Matching

Before hypothesis testing, we made use of propensity score matching (Rosenbaum & Rubin, 1983). The rationale for applying propensity score matching to our data points into the direction of causality. It is usually expected that groups in experiments are deemed to be equal. In order to guarantee this, a randomized control trial (RCT) is the golden standard for conducting experiments in which groups are randomly assigned to either control or intervention group. Due to the fact that management pre- assigned departments to the intervention group, randomization was not possible in our study. To reduce confounding bias, propensity score matching is used as one technique in which participants from both control and intervention group with similar propensity scores are matched on the basis of pre-defined covariates (Connelly, Sackett, & Waters, 2013). As such, the propensity score represents the probability ranging from 0 to 1 of belonging to a condition taking into account the selected covariates (Beal & Kupzyk, 2013). As the precision of propensity score matching depends on the right selection of covariates (Connelly et al., 2013; Thoemmes, 2012), initially we started off with a large number of covariates, which were deemed important based on theoretical arguments; however, the balances after the matching did not improve. In the end, the final set of covariates we controlled for consists of 10 variables. These are productivity, work engagement-vigor, work engagement-dedication, work engagement-absorption, and mental health at baseline and demographic variables such as gender and age as well as hours of employment, education, and how many days an employee comes to the office.

We calculated the propensity score for each participant by means of logistic regression with the help of the psmatching custom dialog software for SPSS (Thoemmes, 2012). By

employing 1:1 nearest neighbor matching without replacement (Thoemmes & Kim, 2011), exactly one participant in the intervention group was matched to one participant in the control group based on the most similar estimated propensity score. In order to avoid bad matches, we imposed a caliper of .20, which represents the "maximum allowable difference between two participants" (Thoemmes, 2012, p. 5). After the matching, as shown in Table A1, standardized mean differences are close to 0 and are smaller than before the matching. Also, the overall $\chi 2$ imbalance test proved to be non-significant, $\chi 2(16) = 3.04$, $p > .05$ (Hansen & Bowers, 2008 cited in Thoemmes (2012)) and the relative multivariate imbalance measure (L1) was smaller after the matching than before ($L1_{before} = .997$; $L1_{before} = .991$ (Iacus, King, & Porro, 2009 cited in Thoemmes (2012)). Thus, the overall balance between the groups is improved. The resulting sample consists of 112 intervention and 112 control participants.

Variable	Before propensity score matching	After propensity score matching
	N= 472	N= 224
Propensity score	.72	.03
Work Engagement- Energy	-.18	.08
Work Engagement- Dedication	-.16	.05
Work Engagement- Absorption	-.24	-.01
Mental Health	-.27	-.01
Productivity	.024	.00
Age group1	.162	.00
Age group 2	-.028	-.028
Age group 4	-.070	.00
Age group 5	-.28	.00
Gender (male)	-.36	.04
Gender (female)	.36	.04
Education group 1	-.12	-.09
Education group 3	-.25	.08
Education group 4	-.54	-.07
Education group 5	.21	-.08
Education group 6	-.21	.09
Education group 7	.39	.09
Hours of Employment	-.18	.02
Days at the office	-.11	.00

Note: Age group 3 and education group 2 are not represented due to too few values

Table A1. Standardized Mean Differences after Propensity Score Matching

Appendix B

B1. Latent Growth Curve Models- Univariate Analyses

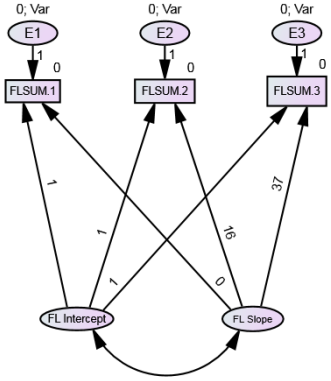

Figure B1.1. Flexibility

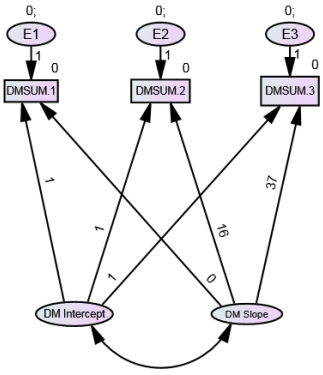

Figure B1.2. Digital Mobility

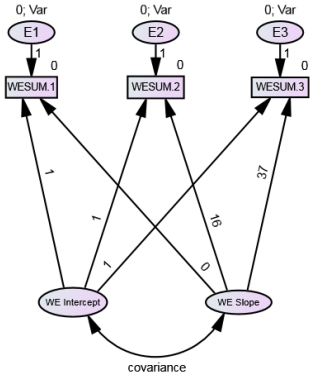

Figure B1.3. Work Engagement

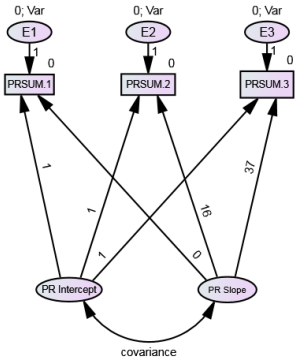

Figure B1.4. Performance

B2. Latent Growth Curve Models-Multivariate Analyses

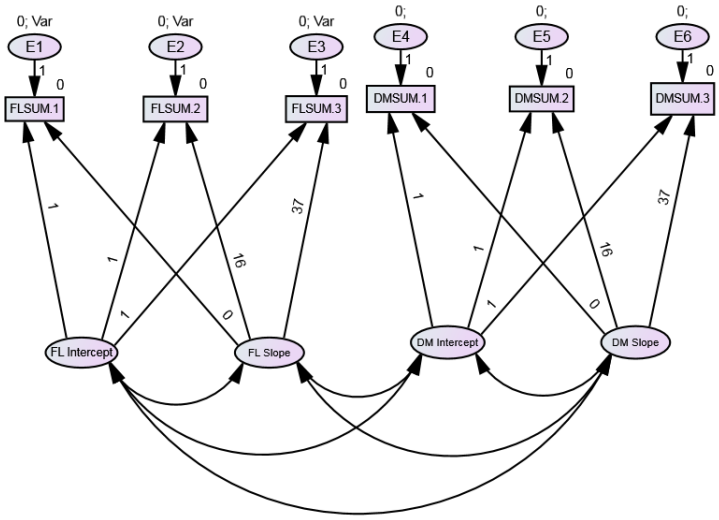

Figure B2.1. Flexibility and Digital Mobility

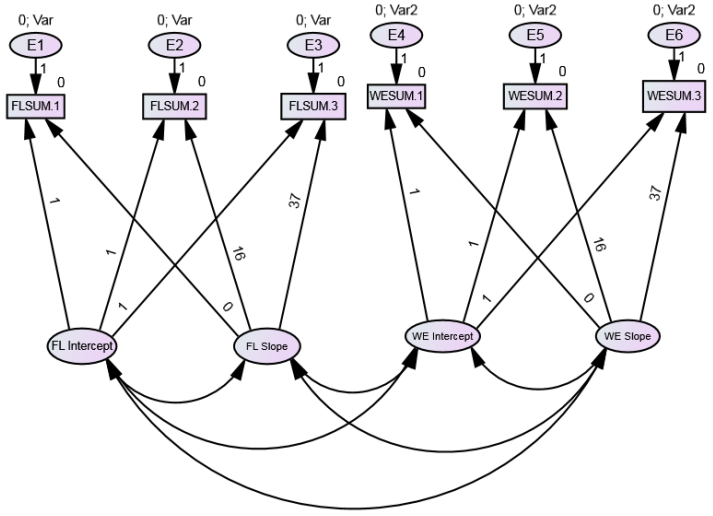

Figure B2.2. Flexibility and Work Engagement

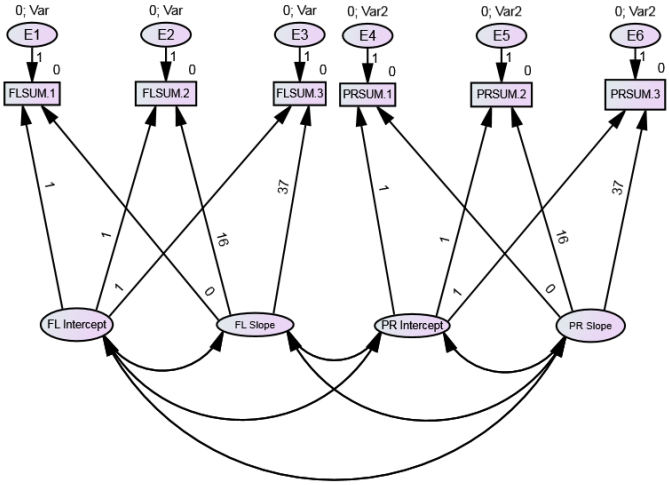

Figure B2.3. Flexibility and Performance

B3. Latent Growth Curve Models- Perceived Workplace Flexibility as a Time-Varying Covariate

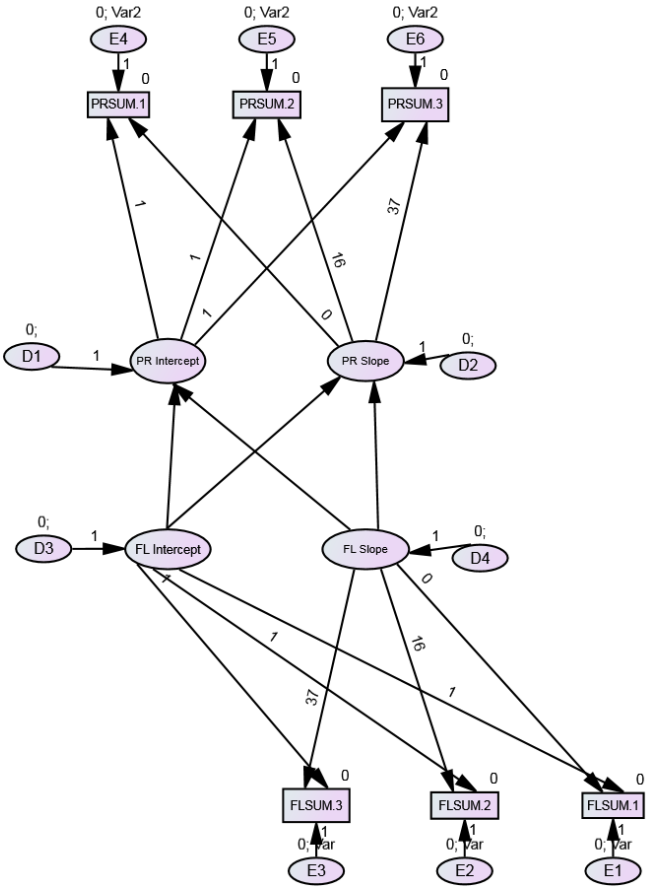

Figure B3.1. Flexibility as a Predictor of Performance

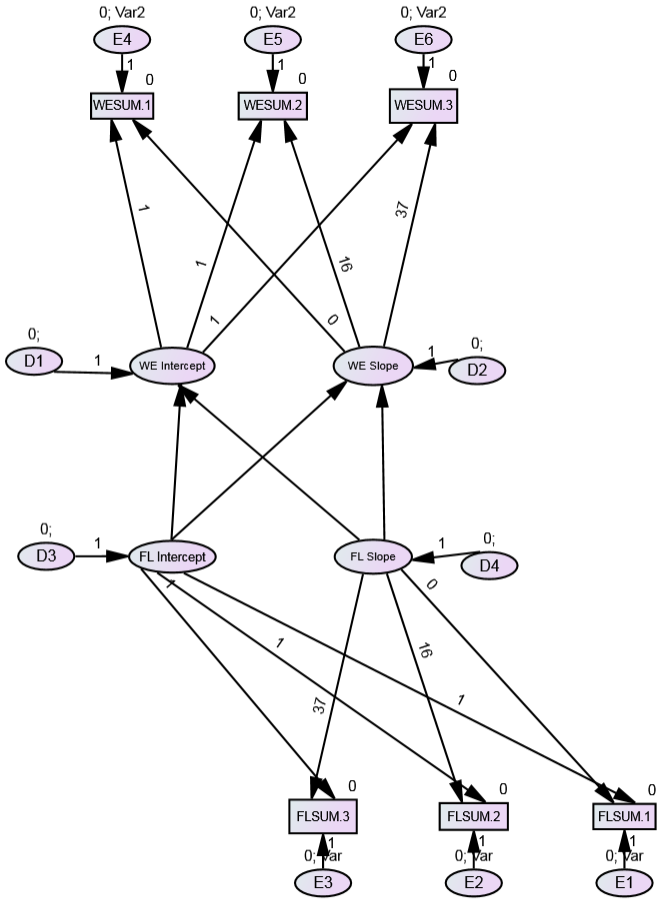

Figure B3.2. Flexibility as a Predictor of Work Engagement

About the Author

Christina Wessels was born on August 18, 1987 in Neuss, Germany. From 2008 to 2011 she studied International Business (BSc.) with a major in Organizational Behavior at Maastricht University, the Netherlands. In 2012, Christina obtained her Master of Science (cum laude) in Business administration with a focus on organizational change from Rotterdam School of Management (RSM), Erasmus University. In January 2013, Christina started her PhD at RSM in the department of Technology & Operations Management under the supervision of Prof.dr. Eric van Heck, Prof.dr. Peter van Baalen, Prof.dr. Michaéla Schippers, and dr. Karin Proper. Her PhD research was conducted in close collaboration with the Dutch National Institute for Public Health and the Environment (affiliated with the Dutch ministry of health, welfare and sports). In her PhD research, Christina investigated an organizational-wide change project on flexible working practices and its influence on employee performance and well-being. Christina's research interests lie at the intersection of organizational behavior, information technology, and organizational psychology. Christina has presented her work at national and international management and organizational psychology conferences such as the Academy of Management Annual meeting (2014, Philadelphia, USA; 2015, Vancouver, Canada; 2016, Anaheim, USA) or at the bi-annual meeting of the European Association for Work and Organizational Psychology (2013, Münster, Germany; 2015, Oslo, Norway). During Christina' PhD candidacy, she supervised 30 Master theses students, and was co-instructor of the Business Information Management Master elective 'Future of work'. Christina is fond of running, skiing, and travelling and lived in Spain and the United States for a considerable amount of time.

Portfolio

Work in Progress

- Wessels, C., Schippers, M. C., Stegmann, S., Bakker, A. B., van Baalen, P. J., & Proper, K. (2017). How to cope with new work practices? A model of time-spatial job crafting. *Manuscript submitted to journal.*
- Wessels, C., Schippers, M. C., van Baalen, P. J., & Proper, K., van Heck, E (2017). The need for routines: Why employees do not adopt activity-based areas. *Manuscript in preparation for journal submission.*
- Wessels, C., Schippers, M. C., van Baalen, P. J., Proper, K., & van Heck, E. (2017). Reaping the benefits of flexible working practices: Daily time-spatial job crafting and media job crafting as means to exploit flexible working practices. *Manuscript in preparation for journal submission.*
- Wessels, C., Schippers, M. C., van Baalen, P. J., Proper, K., & van Heck, E. (2017). Towards a dynamic perspective of workplace flexibility: A latent growth-curve modelling approach to understand the long-term effects of workplace flexibility for performance and work engagement. *Manuscript in preparation for journal submission.*

Conference Presentations and Proceedings

- Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2017). Daily time-spatial job crafting and media job crafting as means to exploit time-spatial flexibility. Accepted for presentation at the 18th European Congress of Work and Organizational Psychology, (EAWOP 2017), May 17-20, 2017, Dublin, Ireland.

- Wessels, C., & Gawke, J. (2016). New Work Practices Call for New Work Responses: Employee-driven Initiatives to Exploit NWPs. Symposium held at the 2016 Annual meeting of the Academy of Management Conference, August 5-9 2016, Anaheim, CA, USA.
- Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2016). Proactively coping with flexible work practices: Testing a context-specific model of job crafting. In Proceedings of the Annual Meeting of the Academy of Management, (AOM 2016), August 5-9 2016, Anaheim, USA.
- Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2016). A process evaluation of an office redesign intervention aimed to improve work engagement. 4th International Well-being at Work Conference, May 29-June 1, 2016, Amsterdam.
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- Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2015). Work engagement and office redesign: A process and effect evaluation of an office redesign intervention. Paper presented at the Annual meeting of the Dutch association for Work and Organizational Psychology (WAOP, 2015), November 27, 2015, Amsterdam.
- Wessels. C., van Baalen, P. J., & Proper, K. I. (2014). Staying engaged in the new world of work. In Proceedings of the Annual Meeting of the Academy of Management, (AOM 2014), August 1-5 2014, Philadelphia, USA.
- Wessels. C., Schippers, M. C., van Baalen, P. J., & Proper, K. I. (2014). On being a workplace trotter: Unraveling the link between workplace flexibility, well-being, and productivity. In Proceedings of the PhD workshop of the German Association for Psychology (DGP) - Work and Organizational Psychology -March 12-14, 2014, Staufen, Germany.
- Wessels, C., Schippers, M. C., van Baalen, P. J., & Proper, K. (2014). Make or break: Spatial job crafting as a means of staying engaged in the new world of work. Paper presented at the 2014 Annual meeting of the Association for Work and Organizational Psychology in the Netherlands (WAOP, 2014), Utrecht, the Netherlands

- Wessels, C., Schippers, M. C., van Baalen. (2013). Getting engaged: It is more than saying yes to your organization. Master thesis presented at the 2013 Annual meeting of the European association for Work and Organizational Psychology (EAWOP 2013), Münster, Germany.

Teaching & Supervising Activities

- Co-instructor of the Business Information Management Master course "Future of Work", 2014, 2015, 2016 (course size: 50-60 students)
- Guest lecture in Business Information Management Master course "Managing Knowledge and Information", 2014 (course size: 250 students)
- Supervision of 8 Master students, 2015; topics: Flexible work practices, leadership, mental health, work engagement, performance, agility
- Supervision of 3 Master students, 2016, topics: P-O fit, telework, alignment
- Supervision of 20 Master students, 2017, topics: Flexible working practices, media job crafting, goal-setting, social media, sharing economy

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